

# Google

## Exam Questions Professional-Cloud-Architect

Google Certified Professional - Cloud Architect (GCP)



**NEW QUESTION 1**

- (Exam Topic 1)

For this question, refer to the Mountkirk Games case study

Mountkirk Games needs to create a repeatable and configurable mechanism for deploying isolated application environments. Developers and testers can access each other's environments and resources, but they cannot access staging or production resources. The staging environment needs access to some services from production.

What should you do to isolate development environments from staging and production?

- A. Create a project for development and test and another for staging and production.
- B. Create a network for development and test and another for staging and production.
- C. Create one subnetwork for development and another for staging and production.
- D. Create one project for development, a second for staging and a third for production.

**Answer:** D

**NEW QUESTION 2**

- (Exam Topic 1)

For this question, refer to the Mountkirk Games case study.

Mountkirk Games' gaming servers are not automatically scaling properly. Last month, they rolled out a new feature, which suddenly became very popular. A record number of users are trying to use the service, but many of them are getting 503 errors and very slow response times. What should they investigate first?

- A. Verify that the database is online.
- B. Verify that the project quota hasn't been exceeded.
- C. Verify that the new feature code did not introduce any performance bugs.
- D. Verify that the load-testing team is not running their tool against production.

**Answer:** B

**Explanation:**

503 is service unavailable error. If the database was online everyone would get the 503 error. [https://cloud.google.com/docs/quota#capping\\_usage](https://cloud.google.com/docs/quota#capping_usage)

**NEW QUESTION 3**

- (Exam Topic 1)

For this question, refer to the Mountkirk Games case study.

Mountkirk Games wants to set up a real-time analytics platform for their new game. The new platform must meet their technical requirements. Which combination of Google technologies will meet all of their requirements?

- A. Container Engine, Cloud Pub/Sub, and Cloud SQL
- B. Cloud Dataflow, Cloud Storage, Cloud Pub/Sub, and BigQuery
- C. Cloud SQL, Cloud Storage, Cloud Pub/Sub, and Cloud Dataflow
- D. Cloud Dataproc, Cloud Pub/Sub, Cloud SQL, and Cloud Dataflow
- E. Cloud Pub/Sub, Compute Engine, Cloud Storage, and Cloud Dataproc

**Answer:** B

**Explanation:**

A real time requires Stream / Messaging so Pub/Sub, Analytics by Big Query.

Ingest millions of streaming events per second from anywhere in the world with Cloud Pub/Sub, powered by Google's unique, high-speed private network. Process the streams with Cloud Dataflow to ensure reliable, exactly-once, low-latency data transformation. Stream the transformed data into BigQuery, the cloud-native data warehousing service, for immediate analysis via SQL or popular visualization tools.

From scenario: They plan to deploy the game's backend on Google Compute Engine so they can capture streaming metrics, run intensive analytics.

Requirements for Game Analytics Platform

- Dynamically scale up or down based on game activity
- Process incoming data on the fly directly from the game servers
- Process data that arrives late because of slow mobile networks
- Allow SQL queries to access at least 10 TB of historical data
- Process files that are regularly uploaded by users' mobile devices
- Use only fully managed services

References: <https://cloud.google.com/solutions/big-data/stream-analytics/>

**NEW QUESTION 4**

- (Exam Topic 1)

For this question, refer to the Mountkirk Games case study.

Mountkirk Games has deployed their new backend on Google Cloud Platform (GCP). You want to create a thorough testing process for new versions of the backend before they are released to the public. You want the testing environment to scale in an economical way. How should you design the process?

- A. Create a scalable environment in GCP for simulating production load.
- B. Use the existing infrastructure to test the GCP-based backend at scale.
- C. Build stress tests into each component of your application using resources internal to GCP to simulate load.
- D. Create a set of static environments in GCP to test different levels of load — for example, high, medium, and low.

**Answer:** A

**Explanation:**

From scenario: Requirements for Game Backend Platform

- Dynamically scale up or down based on game activity
- Connect to a managed NoSQL database service
- Run customize Linux distro

**NEW QUESTION 5**

- (Exam Topic 2)

For this question, refer to the TerramEarth case study.

TerramEarth plans to connect all 20 million vehicles in the field to the cloud. This increases the volume to 20 million 600 byte records a second for 40 TB an hour. How should you design the data ingestion?

- A. Vehicles write data directly to GCS.
- B. Vehicles write data directly to Google Cloud Pub/Sub.
- C. Vehicles stream data directly to Google BigQuery.
- D. Vehicles continue to write data using the existing system (FTP).

**Answer:** B

**Explanation:**

<https://cloud.google.com/solutions/data-lifecycle-cloud-platform>

<https://cloud.google.com/solutions/designing-connected-vehicle-platform>

**NEW QUESTION 6**

- (Exam Topic 2)

For this question, refer to the TerramEarth case study

Your development team has created a structured API to retrieve vehicle data. They want to allow third parties to develop tools for dealerships that use this vehicle event data. You want to support delegated authorization against this data. What should you do?

- A. Build or leverage an OAuth-compatible access control system.
- B. Build SAML 2.0 SSO compatibility into your authentication system.
- C. Restrict data access based on the source IP address of the partner systems.
- D. Create secondary credentials for each dealer that can be given to the trusted third party.

**Answer:** A

**Explanation:**

<https://cloud.google.com/appengine/docs/flexible/go/authorizing-apps> [https://cloud.google.com/docs/enterprise/best-practices-for-enterprise-organizations#delegate\\_application\\_auth](https://cloud.google.com/docs/enterprise/best-practices-for-enterprise-organizations#delegate_application_auth) Delegate application authorization with OAuth2

Cloud Platform APIs support OAuth 2.0, and scopes provide granular authorization over the methods that are supported. Cloud Platform supports both service-account and user-account OAuth, also called three-legged OAuth.

References:

[https://cloud.google.com/docs/enterprise/best-practices-for-enterprise-organizations#delegate\\_application\\_auth](https://cloud.google.com/docs/enterprise/best-practices-for-enterprise-organizations#delegate_application_auth)

<https://cloud.google.com/appengine/docs/flexible/go/authorizing-apps>

**NEW QUESTION 7**

- (Exam Topic 2)

For this question, refer to the TerramEarth case study.

To speed up data retrieval, more vehicles will be upgraded to cellular connections and be able to transmit data to the ETL process. The current FTP process is error-prone and restarts the data transfer from the start of the file when connections fail, which happens often. You want to improve the reliability of the solution and minimize data transfer time on the cellular connections. What should you do?

- A. Use one Google Container Engine cluster of FTP server
- B. Save the data to a Multi-Regional bucket
- C. Run the ETL process using data in the bucket.
- D. Use multiple Google Container Engine clusters running FTP servers located in different region
- E. Save the data to Multi-Regional buckets in us, eu, and asi
- F. Run the ETL process using the data in the bucket.
- G. Directly transfer the files to different Google Cloud Multi-Regional Storage bucket locations in us, eu, and asia using Google APIs over HTTP(S). Run the ETL process using the data in the bucket.
- H. Directly transfer the files to a different Google Cloud Regional Storage bucket location in us, eu, and asia using Google APIs over HTTP(S). Run the ETL process to retrieve the data from each Regional bucket.

**Answer:** D

**Explanation:**

<https://cloud.google.com/storage/docs/locations>

**NEW QUESTION 8**

- (Exam Topic 2)

For this question, refer to the TerramEarth case study.

TerramEarth's 20 million vehicles are scattered around the world. Based on the vehicle's location its telemetry data is stored in a Google Cloud Storage (GCS) regional bucket (US, Europe, or Asia). The CTO has asked you to run a report on the raw telemetry data to determine why vehicles are breaking down after 100 K miles. You want to run this job on all the data. What is the most cost-effective way to run this job?

- A. Move all the data into 1 zone, then launch a Cloud Dataproc cluster to run the job.
- B. Move all the data into 1 region, then launch a Google Cloud Dataproc cluster to run the job.
- C. Launch a cluster in each region to preprocess and compress the raw data, then move the data into a multi region bucket and use a Dataproc cluster to finish the job.
- D. Launch a cluster in each region to preprocess and compress the raw data, then move the data into a region bucket and use a Cloud Dataproc cluster to finish

the jo

**Answer:** D

**Explanation:**

Storage guarantees 2 replicates which are geo diverse (100 miles apart) which can get better remote latency and availability.

More importantly, is that multiregional heavily leverages Edge caching and CDNs to provide the content to the end users.

All this redundancy and caching means that Multiregional comes with overhead to sync and ensure consistency between geo-diverse areas. As such, it's much better for write-once-read-many scenarios. This means frequently accessed (e.g. "hot" objects) around the world, such as website content, streaming videos, gaming or mobile applications.

References:

<https://medium.com/google-cloud/google-cloud-storage-what-bucket-class-for-the-best-performance-5c847ac8f>

**NEW QUESTION 9**

- (Exam Topic 2)

For this question refer to the TerramEarth case study

Operational parameters such as oil pressure are adjustable on each of TerramEarth's vehicles to increase their efficiency, depending on their environmental conditions. Your primary goal is to increase the operating efficiency of all 20 million cellular and unconnected vehicles in the field How can you accomplish this goal?

- A. Have your engineers inspect the data for patterns, and then create an algorithm with rules that make operational adjustments automatically.
- B. Capture all operating data, train machine learning models that identify ideal operations, and run locally to make operational adjustments automatically.
- C. Implement a Google Cloud Dataflow streaming job with a sliding window, and use Google Cloud Messaging (GCM) to make operational adjustments automatically.
- D. Capture all operating data, train machine learning models that identify ideal operations, and host in Google Cloud Machine Learning (ML) Platform to make operational adjustments automatically.

**Answer:** B

**NEW QUESTION 10**

- (Exam Topic 3)

For this question, refer to the JencoMart case study.

The JencoMart security team requires that all Google Cloud Platform infrastructure is deployed using a least privilege model with separation of duties for administration between production and development resources. What Google domain and project structure should you recommend?

- A. Create two G Suite accounts to manage users: one for development/test/staging and one for production. Each account should contain one project for every application.
- B. Create two G Suite accounts to manage users: one with a single project for all development applications and one with a single project for all production applications.
- C. Create a single G Suite account to manage users with each stage of each application in its own project.
- D. Create a single G Suite account to manage users with one project for the development/test/staging environment and one project for the production environment.

**Answer:** D

**Explanation:**

Note: The principle of least privilege and separation of duties are concepts that, although semantically different, are intrinsically related from the standpoint of security. The intent behind both is to prevent people from having higher privilege levels than they actually need

➤ Principle of Least Privilege: Users should only have the least amount of privileges required to perform their job and no more. This reduces authorization exploitation by limiting access to resources such as targets, jobs, or monitoring templates for which they are not authorized.

➤ Separation of Duties: Beyond limiting user privilege level, you also limit user duties, or the specific jobs they can perform. No user should be given responsibility for more than one related function. This limits the ability of a user to perform a malicious action and then cover up that action.

References: <https://cloud.google.com/kms/docs/separation-of-duties>

**NEW QUESTION 10**

- (Exam Topic 3)

For this question, refer to the JencoMart case study.

JencoMart has built a version of their application on Google Cloud Platform that serves traffic to Asia. You want to measure success against their business and technical goals. Which metrics should you track?

- A. Error rates for requests from Asia
- B. Latency difference between US and Asia
- C. Total visits, error rates, and latency from Asia
- D. Total visits and average latency for users in Asia
- E. The number of character sets present in the database

**Answer:** D

**NEW QUESTION 12**

- (Exam Topic 3)

For this question, refer to the JencoMart case study.

JencoMart has decided to migrate user profile storage to Google Cloud Datastore and the application servers to Google Compute Engine (GCE). During the migration, the existing infrastructure will need access to Datastore to upload the data. What service account key-management strategy should you recommend?

- A. Provision service account keys for the on-premises infrastructure and for the GCE virtual machines (VMs).
- B. Authenticate the on-premises infrastructure with a user account and provision service account keys for the VMs.
- C. Provision service account keys for the on-premises infrastructure and use Google Cloud Platform (GCP) managed keys for the VMs
- D. Deploy a custom authentication service on GCE/Google Container Engine (GKE) for the on-premises infrastructure and use GCP managed keys for the VMs.

**Answer:** A

**Explanation:**

<https://cloud.google.com/iam/docs/understanding-service-accounts>

Migrating data to Google Cloud Platform

Let's say that you have some data processing that happens on another cloud provider and you want to transfer the processed data to Google Cloud Platform. You can use a service account from the virtual machines on the external cloud to push the data to Google Cloud Platform. To do this, you must create and download a service account key when you create the service account and then use that key from the external process to call the Cloud Platform APIs.

References:

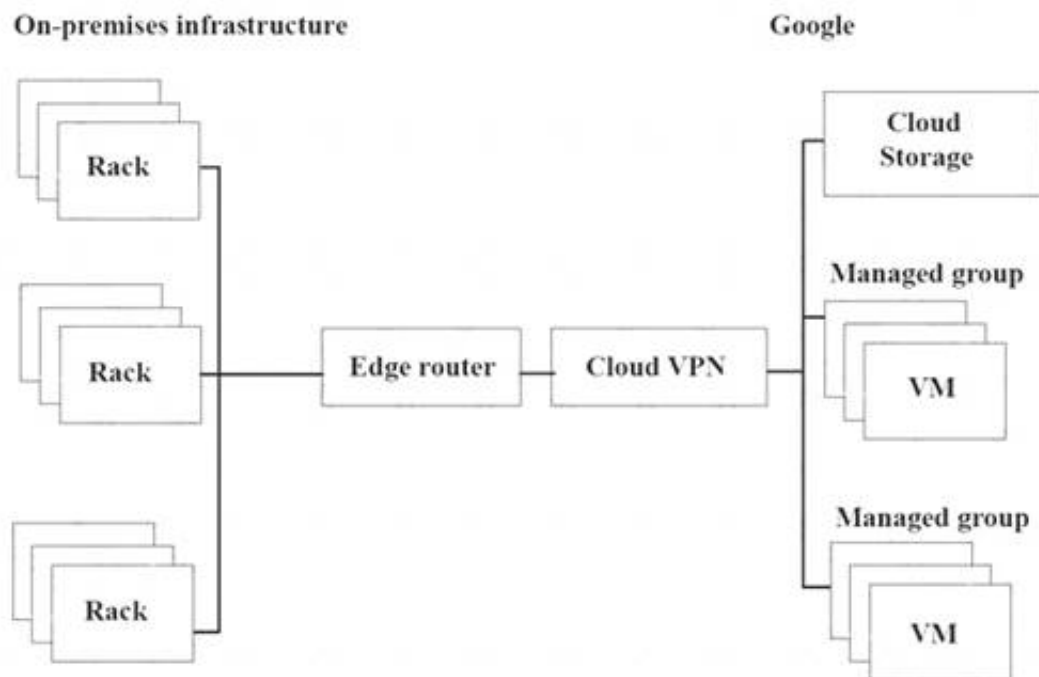
[https://cloud.google.com/iam/docs/understanding-service-accounts#migrating\\_data\\_to\\_google\\_cloud\\_platform](https://cloud.google.com/iam/docs/understanding-service-accounts#migrating_data_to_google_cloud_platform)

**NEW QUESTION 16**

- (Exam Topic 3)

For this question, refer to the JencoMart case study.

The migration of JencoMart's application to Google Cloud Platform (GCP) is progressing too slowly. The infrastructure is shown in the diagram. You want to maximize throughput. What are three potential bottlenecks? (Choose 3 answers.)



- A. A single VPN tunnel, which limits throughput
- B. A tier of Google Cloud Storage that is not suited for this task
- C. A copy command that is not suited to operate over long distances
- D. Fewer virtual machines (VMs) in GCP than on-premises machines
- E. A separate storage layer outside the VMs, which is not suited for this task
- F. Complicated internet connectivity between the on-premises infrastructure and GCP

**Answer:** ADF

**NEW QUESTION 21**

- (Exam Topic 4)

The current Dress4win system architecture has high latency to some customers because it is located in one data center.

As a future evaluation and optimizing for performance in the cloud, Dress4win wants to distribute its system architecture to multiple locations when Google cloud platform. Which approach should they use?

- A. Use regional managed instance groups and a global load balancer to increase performance because the regional managed instance group can grow instances in each region separately based on traffic.
- B. Use a global load balancer with a set of virtual machines that forward the requests to a closer group of virtual machines managed by your operations team.
- C. Use regional managed instance groups and a global load balancer to increase reliability by providing automatic failover between zones in different regions.
- D. Use a global load balancer with a set of virtual machines that forward the requests to a closer group of virtual machines as part of a separate managed instance groups.

**Answer:** A

**NEW QUESTION 24**

- (Exam Topic 4)

Dress4win has end to end tests covering 100% of their endpoints.

They want to ensure that the move of cloud does not introduce any new bugs.

Which additional testing methods should the developers employ to prevent an outage?

- A. They should run the end to end tests in the cloud staging environment to determine if the code is working as intended.
- B. They should enable google stack driver debugger on the application code to show errors in the code
- C. They should add additional unit tests and production scale load tests on their cloud staging environment.
- D. They should add canary tests so developers can measure how much of an impact the new release causes to latency

**Answer:** B

**NEW QUESTION 26**

- (Exam Topic 4)

For this question, refer to the Dress4Win case study.



As part of their new application experience, Dress4Wm allows customers to upload images of themselves. The customer has exclusive control over who may view these images. Customers should be able to upload images with minimal latency and also be shown their images quickly on the main application page when they log in. Which configuration should Dress4Win use?

- A. Store image files in a Google Cloud Storage bucket
- B. Use Google Cloud Datastore to maintain metadata that maps each customer's ID and their image files.
- C. Store image files in a Google Cloud Storage bucket
- D. Add custom metadata to the uploaded images in Cloud Storage that contains the customer's unique ID.
- E. Use a distributed file system to store customers' image
- F. As storage needs increase, add more persistent disks and/or node
- G. Assign each customer a unique ID, which sets each file's owner attribute, ensuring privacy of images.
- H. Use a distributed file system to store customers' image
- I. As storage needs increase, add more persistent disks and/or node
- J. Use a Google Cloud SQL database to maintain metadata that maps each customer's ID to their image files.

**Answer:** A

#### NEW QUESTION 27

- (Exam Topic 4)

For this question, refer to the Dress4Win case study.

At Dress4Win, an operations engineer wants to create a low-cost solution to remotely archive copies of database backup files. The database files are compressed tar files stored in their current data center. How should he proceed?

- A. Create a cron script using gsutil to copy the files to a Coldline Storage bucket.
- B. Create a cron script using gsutil to copy the files to a Regional Storage bucket.
- C. Create a Cloud Storage Transfer Service Job to copy the files to a Coldline Storage bucket.
- D. Create a Cloud Storage Transfer Service job to copy the files to a Regional Storage bucket.

**Answer:** A

#### Explanation:

Follow these rules of thumb when deciding whether to use gsutil or Storage Transfer Service:

- When transferring data from an on-premises location, use gsutil.
- When transferring data from another cloud storage provider, use Storage Transfer Service.
- Otherwise, evaluate both tools with respect to your specific scenario.

Use this guidance as a starting point. The specific details of your transfer scenario will also help you determine which tool is more appropriate

<https://cloud.google.com/storage-transfer/docs/overview>

#### NEW QUESTION 30

- (Exam Topic 4)

For this question, refer to the Dress4Win case study.

Dress4Win would like to become familiar with deploying applications to the cloud by successfully deploying some applications quickly, as is. They have asked for your recommendation. What should you advise?

- A. Identify self-contained applications with external dependencies as a first move to the cloud.
- B. Identify enterprise applications with internal dependencies and recommend these as a first move to the cloud.
- C. Suggest moving their in-house databases to the cloud and continue serving requests to on-premise applications.
- D. Recommend moving their message queuing servers to the cloud and continue handling requests to on-premise applications.

**Answer:** A

#### Explanation:

<https://cloud.google.com/blog/products/gcp/the-five-phases-of-migrating-to-google-cloud-platform>

#### NEW QUESTION 35

- (Exam Topic 5)

You have an application deployed on Kubernetes Engine using a Deployment named echo-deployment. The deployment is exposed using a Service called echo-service. You need to perform an update to the application with minimal downtime to the application. What should you do?

- A. Use kubectl set image deployment/echo-deployment <new-image>
- B. Use the rolling update functionality of the Instance Group behind the Kubernetes cluster
- C. Update the deployment yaml file with the new container image
- D. Use kubectl delete deployment/ echo-deployment and kubectl create -f <yaml-file>
- E. Update the service yaml file which the new container image
- F. Use kubectl delete service/echoservice and kubectl create -f <yaml-file>

**Answer:** A

#### Explanation:

[https://cloud.google.com/kubernetes-engine/docs/how-to/updating-apps#updating\\_an\\_application](https://cloud.google.com/kubernetes-engine/docs/how-to/updating-apps#updating_an_application)

#### NEW QUESTION 37

- (Exam Topic 5)

Google Cloud Platform resources are managed hierarchically using organization, folders, and projects. When Cloud Identity and Access Management (IAM) policies exist at these different levels, what is the effective policy at a particular node of the hierarchy?

- A. The effective policy is determined only by the policy set at the node
- B. The effective policy is the policy set at the node and restricted by the policies of its ancestors

- C. The effective policy is the union of the policy set at the node and policies inherited from its ancestors  
D. The effective policy is the intersection of the policy set at the node and policies inherited from its ancestors

**Answer:** B

**Explanation:**

Reference: <https://cloud.google.com/resource-manager/docs/cloud-platform-resource-hierarchy>

**NEW QUESTION 42**

- (Exam Topic 5)

You deploy your custom Java application to Google App Engine. It fails to deploy and gives you the following stack trace.

```
java.lang.SecurityException: SHA1 digest error for
com/Altostrat/CloakedServlet.class
    at com.google.appengine.runtime.Request.process
-d36f818a24b8cf1d (Request.java)
    at
sun.security.util.ManifestEntryVerifier.verify
(ManifestEntryVerifier.java:210)
    at java.util.jar.JarVerifier.processEntry
(JarVerifier.java:218)
    at java.util.jar.JarVerifier.update
(JarVerifier.java:205)
    at
java.util.jar.JarVerifiersVerifierStream.read
(JarVerifier.java:428)
    at sun.misc.Resource.getBytes
(Resource.java:124)
    at java.net.URL.ClassLoader.defineClass
(URLClassLoader.java:273)
    at sun.reflect.GeneratedMethodAccessor5.invoke
(Unknown Source)
    at
sun.reflect.DelegatingMethodAccessorImpl.invoke
(DelegatingMethodAccessorImpl.java:43)
    at java.lang.reflect.Method.invoke
(Method.java:616)
    at java.lang.ClassLoader.loadClass
(ClassLoader.java:266)
```

What should you do?

- A. Upload missing JAR files and redeploy your application.  
B. Digitally sign all of your JAR files and redeploy your application  
C. Recompile the CLoakedServlet class using and MD5 hash instead of SHA1

**Answer:** B

**NEW QUESTION 47**

- (Exam Topic 5)

A lead engineer wrote a custom tool that deploys virtual machines in the legacy data center. He wants to migrate the custom tool to the new cloud environment. You want to advocate for the adoption of Google Cloud Deployment Manager. What are two business risks of migrating to Cloud Deployment Manager? Choose 2 answers.

- A. Cloud Deployment Manager uses Python.  
B. Cloud Deployment Manager APIs could be deprecated in the future.  
C. Cloud Deployment Manager is unfamiliar to the company's engineers.  
D. Cloud Deployment Manager requires a Google APIs service account to run.  
E. Cloud Deployment Manager can be used to permanently delete cloud resources.  
F. Cloud Deployment Manager only supports automation of Google Cloud resources.

**Answer:** CF

**Explanation:**

<https://cloud.google.com/deployment-manager/docs/deployments/deleting-deployments>

**NEW QUESTION 52**

- (Exam Topic 5)

Your company has developed a monolithic, 3-tier application to allow external users to upload and share files. The solution cannot be easily enhanced and lacks reliability. The development team would like to re-architect the application to adopt microservices and a fully managed service approach, but they need to convince their leadership that the effort is worthwhile. Which advantage(s) should they highlight to leadership?

- A. The new approach will be significantly less costly, make it easier to manage the underlying infrastructure, and automatically manage the CI/CD pipelines.
- B. The monolithic solution can be converted to a container with Docker.
- C. The generated container can then be deployed into a Kubernetes cluster.
- D. The new approach will make it easier to decouple infrastructure from application, develop and release new features, manage the underlying infrastructure, manage CI/CD pipelines and perform A/B testing, and scale the solution if necessary.
- E. The process can be automated with Migrate for Compute Engine.

**Answer:** C

**Explanation:**

The new approach will make it easier to decouple infrastructure from an application, develop and release new features, manage the underlying infrastructure, manage CI/CD pipelines and perform A/B testing, and scale the solution if necessary.

**NEW QUESTION 54**

- (Exam Topic 5)

Your company has an enterprise application running on Compute Engine that requires high availability and high performance. The application has been deployed on two instances in two zones in the same region in active-passive mode. The application writes data to a persistent disk in the case of a single zone outage that data should be immediately made available to the other instance in the other zone. You want to maximize performance while minimizing downtime and data loss. What should you do?

- A. \* 1. Attach a persistent SSD disk to the first instance\* 2. Create a snapshot every hour\* 3. In case of a zone outage, recreate a persistent SSD disk in the second instance where data is coming from the created snapshot
- B. \* 1. Create a Cloud Storage bucket\* 2. Mount the bucket into the first instance with gcs-fuse\* 3. In case of a zone outage, mount the Cloud Storage bucket to the second instance with gcs-fuse
- C. \* 1. Attach a local SSD to the first instance disk\* 2. Execute an rsync command every hour where the target is a persistent SSD disk attached to the second instance\* 3. In case of a zone outage, use the second instance
- D. \* 1. Attach a regional SSD persistent disk to the first instance\* 2. In case of a zone outage, force-attach the disk to the other instance

**Answer:** D

**NEW QUESTION 55**

- (Exam Topic 5)

You are using Cloud Shell and need to install a custom utility for use in a few weeks. Where can you store the file so it is in the default execution path and persists across sessions?

- A. ~/bin
- B. Cloud Storage
- C. /google/scripts
- D. /usr/local/bin

**Answer:** D

**Explanation:**

<https://medium.com/google-cloud/no-localhost-no-problem-using-google-cloud-shell-as-my-full-time-developer>

**NEW QUESTION 56**

- (Exam Topic 5)

You have found an error in your App Engine application caused by missing Cloud Datastore indexes. You have created a YAML file with the required indexes and want to deploy these new indexes to Cloud Datastore. What should you do?

- A. Point gcloud datastore create-indexes to your configuration file
- B. Upload the configuration file to the App Engine's default Cloud Storage bucket, and have App Engine detect the new indexes
- C. In the GCP Console, use Datastore Admin to delete the current indexes and upload the new configuration file
- D. Create an HTTP request to the built-in python module to send the index configuration file to your application

**Answer:** A

**NEW QUESTION 59**

- (Exam Topic 5)

Your company has decided to make a major revision of their API in order to create better experiences for their developers. They need to keep the old version of the API available and deployable, while allowing new customers and testers to try out the new API. They want to keep the same SSL and DNS records in place to serve both APIs. What should they do?

- A. Configure a new load balancer for the new version of the API.
- B. Reconfigure old clients to use a new endpoint for the new API.
- C. Have the old API forward traffic to the new API based on the path.
- D. Use separate backend pools for each API path behind the load balancer.

**Answer:** D

**Explanation:**

<https://cloud.google.com/endpoints/docs/openapi/lifecycle-management>



#### NEW QUESTION 60

- (Exam Topic 5)

You have developed an application using Cloud ML Engine that recognizes famous paintings from uploaded images. You want to test the application and allow specific people to upload images for the next 24 hours. Not all users have a Google Account. How should you have users upload images?

- A. Have users upload the images to Cloud Storage
- B. Protect the bucket with a password that expires after 24 hours.
- C. Have users upload the images to Cloud Storage using a signed URL that expires after 24 hours.
- D. Create an App Engine web application where users can upload image
- E. Configure App Engine to disable the application after 24 hour
- F. Authenticate users via Cloud Identity.
- G. Create an App Engine web application where users can upload images for the next 24 hours. Authenticate users via Cloud Identity.

**Answer:** A

#### Explanation:

<https://cloud.google.com/blog/products/storage-data-transfer/uploading-images-directly-to-cloud-storage-by-usi>

#### NEW QUESTION 65

- (Exam Topic 5)

Your company has just recently activated Cloud Identity to manage users. The Google Cloud Organization has been configured as well. The security team needs to secure protects that will be part of the Organization. They want to prohibit IAM users outside the domain from gaining permissions from now on. What should they do?

- A. Configure an organization policy to restrict identities by domain
- B. Configure an organization policy to block creation of service accounts
- C. Configure Cloud Scheduler to trigger a Cloud Function every hour that removes all users that don't belong to the Cloud identity domain from all projects.
- D. Create a technical user (e.g. crawler@yourdomain.com), and give it the protect owner role at root organization level. Write a bash script that:
  - Lists all the IAM rules of all projects within the organization
  - Deletes all users that do not belong to the company domainCreate a Compute Engine instance in a project within the Organization and configure gcloud to be executed with technical user credentials. Configure a cron job that executes the bash script every hour.

**Answer:** A

#### NEW QUESTION 70

- (Exam Topic 5)

You need to ensure reliability for your application and operations by supporting reliable task scheduling for compute on GCP. Leveraging Google best practices, what should you do?

- A. Using the Cron service provided by App Engine, publishing messages directly to a message-processing utility service running on Compute Engine instances.
- B. Using the Cron service provided by App Engine, publish messages to a Cloud Pub/Sub topic
- C. Subscribe to that topic using a message-processing utility service running on Compute Engine instances.
- D. Using the Cron service provided by Google Kubernetes Engine (GKE), publish messages directly to a message-processing utility service running on Compute Engine instances.
- E. Using the Cron service provided by GKE, publish messages to a Cloud Pub/Sub topic
- F. Subscribe to that topic using a message-processing utility service running on Compute Engine instances.

**Answer:** B

#### Explanation:

<https://cloud.google.com/solutions/reliable-task-scheduling-compute-engine>

#### NEW QUESTION 72

- (Exam Topic 5)

You deploy your custom Java application to Google App Engine. It fails to deploy and gives you the following stack trace:

```
Java.lang.SecurityException : SHA1 digest

    At com.google.appengine.runtime.Request.pr

    At

    Sun.security.util.manifestEntryVerifier.ver

    At java . net . URLClassLoader . defineCla

    At sun . reflect . GeneratedMethodAccessors

    At

    Sun.reflect . DelegatingMethodAccesorImpl.

    At java . lang . reflect . MThod . invoke
```

- A. Recompile the CLoakedServlet class using and MD5 hash instead of SHA1
- B. Digitally sign all of your JAR files and redeploy your application.
- C. Upload missing JAR files and redeploy your application

**Answer: B**

### NEW QUESTION 73

- (Exam Topic 5)

Your company is designing its data lake on Google Cloud and wants to develop different ingestion pipelines to collect unstructured data from different sources. After the data is stored in Google Cloud, it will be processed in several data pipelines to build a recommendation engine for end users on the website. The structure of the data retrieved from the source systems can change at any time. The data must be stored exactly as it was retrieved for reprocessing purposes in case the data structure is incompatible with the current processing pipelines. You need to design an architecture to support the use case after you retrieve the data. What should you do?

- A. Send the data through the processing pipeline, and then store the processed data in a BigQuery table for reprocessing.
- B. Store the data in a BigQuery tabl
- C. Design the processing pipelines to retrieve the data from the table.
- D. Send the data through the processing pipeline, and then store the processed data in a Cloud Storage bucket for reprocessing.
- E. Store the data in a Cloud Storage bucke
- F. Design the processing pipelines to retrieve the data from the bucket

**Answer: D**

### NEW QUESTION 75

- (Exam Topic 5)

You have created several preemptible Linux virtual machine instances using Google Compute Engine. You want to properly shut down your application before the virtual machines are preempted. What should you do?

- A. Create a shutdown script named k99.shutdown in the /etc/rc.6.d/ directory.
- B. Create a shutdown script registered as a xinetd service in Linux and configure a Stackdriver endpoint check to call the service.
- C. Create a shutdown script and use it as the value for a new metadata entry with the key shutdown-script in the Cloud Platform Console when you create the new virtual machine instance.
- D. Create a shutdown script, registered as a xinetd service in Linux, and use the gcloud compute instances add-metadata command to specify the service URL as the value for a new metadata entry with the key shutdown-script-url

**Answer: C**

### NEW QUESTION 77

- (Exam Topic 5)

You team needs to create a Google Kubernetes Engine (GKE) cluster to host a newly built application that requires access to third-party services on the internet. Your company does not allow any Compute Engine instance to have a public IP address on Google Cloud. You need to create a deployment strategy that adheres to these guidelines. What should you do?

- A. Create a Compute Engine instance, and install a NAT Proxy on the instanc
- B. Configure all workloads on GKE to pass through this proxy to access third-party services on the Internet
- C. Configure the GKE cluster as a private cluster, and configure Cloud NAT Gateway for the cluster subnet
- D. Configure the GKE cluster as a route-based cluste
- E. Configure Private Google Access on the Virtual Private Cloud (VPC)
- F. Configure the GKE cluster as a private cluste

G. Configure Private Google Access on the Virtual Private Cloud (VPC)

**Answer:** B

**Explanation:**

A Cloud NAT gateway can perform NAT for nodes and Pods in a private cluster, which is a type of VPC-native cluster. The Cloud NAT gateway must be configured to apply to at least the following subnet IP address ranges for the subnet that your cluster uses:

- Subnet primary IP address range (used by nodes)
- Subnet secondary IP address range used for Pods in the cluster
- Subnet secondary IP address range used for Services in the cluster

The simplest way to provide NAT for an entire private cluster is to configure a Cloud NAT gateway to apply to all of the cluster's subnet's IP address ranges.

<https://cloud.google.com/nat/docs/overview>

**NEW QUESTION 78**

- (Exam Topic 5)

Your company's test suite is a custom C++ application that runs tests throughout each day on Linux virtual machines. The full test suite takes several hours to complete, running on a limited number of on premises servers reserved for testing. Your company wants to move the testing infrastructure to the cloud, to reduce the amount of time it takes to fully test a change to the system, while changing the tests as little as possible. Which cloud infrastructure should you recommend?

- A. Google Compute Engine unmanaged instance groups and Network Load Balancer
- B. Google Compute Engine managed instance groups with auto-scaling
- C. Google Cloud Dataproc to run Apache Hadoop jobs to process each test
- D. Google App Engine with Google Stackdriver for logging

**Answer:** B

**Explanation:**

<https://cloud.google.com/compute/docs/instance-groups/>

Google Compute Engine enables users to launch virtual machines (VMs) on demand. VMs can be launched from the standard images or custom images created by users.

Managed instance groups offer autoscaling capabilities that allow you to automatically add or remove instances from a managed instance group based on increases or decreases in load. Autoscaling helps your applications gracefully handle increases in traffic and reduces cost when the need for resources is lower.

**NEW QUESTION 81**

- (Exam Topic 5)

Your company acquired a healthcare startup and must retain its customers' medical information for up to 4 more years, depending on when it was created. Your corporate policy is to securely retain this data, and then delete it as soon as regulations allow. Which approach should you take?

- A. Store the data in Google Drive and manually delete records as they expire.
- B. Anonymize the data using the Cloud Data Loss Prevention API and store it indefinitely.
- C. Store the data using the Cloud Storage and use lifecycle management to delete files when they expire.
- D. Store the data in Cloud Storage and run a nightly batch script that deletes all expired data.

**Answer:** C

**Explanation:**

<https://cloud.google.com/storage/docs/lifecycle>

**NEW QUESTION 85**

- (Exam Topic 5)

You have been asked to select the storage system for the click-data of your company's large portfolio of websites. This data is streamed in from a custom website analytics package at a typical rate of 6,000 clicks per minute, with bursts of up to 8,500 clicks per second. It must be stored for future analysis by your data science and user experience teams. Which storage infrastructure should you choose?

- A. Google Cloud SQL
- B. Google Cloud Bigtable
- C. Google Cloud Storage
- D. Google cloud Datastore

**Answer:** C

**Explanation:**

<https://cloud.google.com/bigquery/docs/loading-data-cloud-storage>

**NEW QUESTION 88**

- (Exam Topic 5)

Your company is moving 75 TB of data into Google Cloud. You want to use Cloud Storage and follow Google recommended practices. What should you do?

- A. Move your data onto a Transfer Appliance
- B. Use a Transfer Appliance Rehydrator to decrypt the data into Cloud Storage.
- C. Move your data onto a Transfer Appliance
- D. Use Cloud Dataprep to decrypt the data into Cloud Storage.
- E. Install gsutil on each server that contains data
- F. Use resumable transfers to upload the data into Cloud Storage.
- G. Install gsutil on each server containing data
- H. Use streaming transfers to upload the data into Cloud Storage.

**Answer:** A

**Explanation:**

<https://cloud.google.com/transfer-appliance/docs/2.0/faq>

**NEW QUESTION 92**

- (Exam Topic 5)

You are working at an institution that processes medical data. You are migrating several workloads onto Google Cloud. Company policies require all workloads to run on physically separated hardware, and workloads from different clients must also be separated. You created a sole-tenant node group and added a node for each client. You need to deploy the workloads on these dedicated hosts. What should you do?

- A. Add the node group name as a network tag when creating Compute Engine instances in order to host each workload on the correct node group.
- B. Add the node name as a network tag when creating Compute Engine instances in order to host each workload on the correct node.
- C. Use node affinity labels based on the node group name when creating Compute Engine instances in order to host each workload on the correct node group.
- D. Use node affinity labels based on the node name when creating Compute Engine instances in order to host each workload on the correct node.

**Answer: C**

**Explanation:**

[https://cloud.google.com/compute/docs/nodes/provisioning-sole-tenant-vms#provision\\_a\\_sole-tenant\\_vm](https://cloud.google.com/compute/docs/nodes/provisioning-sole-tenant-vms#provision_a_sole-tenant_vm)

[https://cloud.google.com/compute/docs/nodes/provisioning-sole-tenant-vms#gcloud\\_2](https://cloud.google.com/compute/docs/nodes/provisioning-sole-tenant-vms#gcloud_2)

When you create a VM, you request sole-tenancy by specifying node affinity or anti-affinity, referencing one or more node affinity labels. You specify custom node affinity labels when you create a node template, and Compute Engine automatically includes some default affinity labels on each node. By specifying affinity when you create a VM, you can schedule VMs together on a specific node or nodes in a node group. By specifying anti-affinity when you create a VM, you can ensure that certain VMs are not scheduled together on the same node or nodes in a node group.

**NEW QUESTION 94**

- (Exam Topic 5)

Your organization has stored sensitive data in a Cloud Storage bucket. For regulatory reasons, your company must be able to rotate the encryption key used to encrypt the data in the bucket. The data will be processed in Dataproc. You want to follow Google-recommended practices for security. What should you do?

- A. Create a key with Cloud Key Management Service (KMS). Encrypt the data using the encrypt method of Cloud KMS.
- B. Create a key with Cloud Key Management Service (KMS). Set the encryption key on the bucket to the Cloud KMS key.
- C. Generate a GPG key pair.
- D. Encrypt the data using the GPG key.
- E. Upload the encrypted data to the bucket.
- F. Generate an AES-256 encryption key.
- G. Encrypt the data in the bucket using the customer-supplied encryption keys feature.

**Answer: B**

**Explanation:**

<https://cloud.google.com/storage/docs/encryption/using-customer-managed-keys#add-object-key> <https://cloud.google.com/storage/docs/encryption/using-customer-managed-keys>

**NEW QUESTION 98**

- (Exam Topic 5)

Your company uses the Firewall Insights feature in the Google Network Intelligence Center. You have several firewall rules applied to Compute Engine instances. You need to evaluate the efficiency of the applied firewall ruleset. When you bring up the Firewall Insights page in the Google Cloud Console, you notice that there are no log rows to display. What should you do to troubleshoot the issue?

- A. Enable Virtual Private Cloud (VPC) flow logging.
- B. Enable Firewall Rules Logging for the firewall rules you want to monitor.
- C. Verify that your user account is assigned the compute.networkAdmin Identity and Access Management (IAM) role.
- D. Install the Google Cloud SDK, and verify that there are no Firewall logs in the command line output.

**Answer: B**

**Explanation:**

Reference: <https://cloud.google.com/network-intelligence-center/docs/firewall-insights/how-to/using-firewall-insights>

**NEW QUESTION 99**

- (Exam Topic 5)

The database administration team has asked you to help them improve the performance of their new database server running on Google Compute Engine. The database is for importing and normalizing their performance statistics and is built with MySQL running on Debian Linux. They have an n1-standard-8 virtual machine with 80 GB of SSD persistent disk. What should they change to get better performance from this system?

- A. Increase the virtual machine's memory to 64 GB.
- B. Create a new virtual machine running PostgreSQL.
- C. Dynamically resize the SSD persistent disk to 500 GB.
- D. Migrate their performance metrics warehouse to BigQuery.
- E. Modify all of their batch jobs to use bulk inserts into the database.

**Answer: C**

**NEW QUESTION 103**

- (Exam Topic 5)

You need to migrate Hadoop jobs for your company's Data Science team without modifying the underlying infrastructure. You want to minimize costs and infrastructure management effort. What should you do?



- A. Create a Dataproc cluster using standard worker instances.
- B. Create a Dataproc cluster using preemptible worker instances.
- C. Manually deploy a Hadoop cluster on Compute Engine using standard instances.
- D. Manually deploy a Hadoop cluster on Compute Engine using preemptible instances.

**Answer:** B

**Explanation:**

Reference: <https://cloud.google.com/architecture/hadoop/hadoop-gcp-migration-jobs>

#### NEW QUESTION 105

- (Exam Topic 5)

You are designing an application for use only during business hours. For the minimum viable product release, you'd like to use a managed product that automatically "scales to zero" so you don't incur costs when there is no activity.

Which primary compute resource should you choose?

- A. Cloud Functions
- B. Compute Engine
- C. Kubernetes Engine
- D. AppEngine flexible environment

**Answer:** A

**Explanation:**

<https://cloud.google.com/serverless-options>

#### NEW QUESTION 110

- (Exam Topic 5)

You need to develop procedures to test a disaster plan for a mission-critical application. You want to use Google-recommended practices and native capabilities within GCP.

What should you do?

- A. Use Deployment Manager to automate service provisionin
- B. Use Activity Logs to monitor and debug your tests.
- C. Use Deployment Manager to automate provisionin
- D. Use Stackdriver to monitor and debug your tests.
- E. Use gcloud scripts to automate service provisionin
- F. Use Activity Logs monitor and debug your tests.
- G. Use automated scripts to automate service provisionin
- H. Use Activity Logs monitor and debug your tests.

**Answer:** B

**Explanation:**

<https://cloud.google.com/solutions/dr-scenarios-planning-guide>

#### NEW QUESTION 112

- (Exam Topic 5)

You have an outage in your Compute Engine managed instance group: all instance keep restarting after 5 seconds. You have a health check configured, but autoscaling is disabled. Your colleague, who is a Linux expert, offered to look into the issue. You need to make sure that he can access the VMs. What should you do?

- A. Grant your colleague the IAM role of project Viewer
- B. Perform a rolling restart on the instance group
- C. Disable the health check for the instance grou
- D. Add his SSH key to the project-wide SSH keys
- E. Disable autoscaling for the instance grou
- F. Add his SSH key to the project-wide SSH Keys

**Answer:** C

**Explanation:**

<https://cloud.google.com/compute/docs/instance-groups/autohealing-instances-in-migs>

Health checks used for autohealing should be conservative so they don't preemptively delete and recreate your instances. When an autohealer health check is too aggressive, the autohealer might mistake busy instances for failed instances and unnecessarily restart them, reducing availability

#### NEW QUESTION 113

- (Exam Topic 5)

You need to upload files from your on-premises environment to Cloud Storage. You want the files to be encrypted on Cloud Storage using customer-supplied encryption keys. What should you do?

- A. Supply the encryption key in a .boto configuration fil
- B. Use gsutil to upload the files.
- C. Supply the encryption key using gcloud confi
- D. Use gsutil to upload the files to that bucket.
- E. Use gsutil to upload the files, and use the flag --encryption-key to supply the encryption key.
- F. Use gsutil to create a bucket, and use the flag --encryption-key to supply the encryption ke
- G. Use gsutil to upload the files to that bucket.

**Answer:** A

**Explanation:**

<https://cloud.google.com/storage/docs/encryption/customer-supplied-keys#gsutil>

#### NEW QUESTION 114

- (Exam Topic 5)

Your customer is moving an existing corporate application to Google Cloud Platform from an on-premises data center. The business owners require minimal user disruption. There are strict security team requirements for storing passwords. What authentication strategy should they use?

- A. Use G Suite Password Sync to replicate passwords into Google.
- B. Federate authentication via SAML 2.0 to the existing Identity Provider.
- C. Provision users in Google using the Google Cloud Directory Sync tool.
- D. Ask users to set their Google password to match their corporate password.

**Answer:** B

**Explanation:**

<https://cloud.google.com/solutions/authenticating-corporate-users-in-a-hybrid-environment>

#### NEW QUESTION 119

- (Exam Topic 5)

Your company has a Google Cloud project that uses BigQuery for data warehousing. They have a VPN tunnel between the on-premises environment and Google Cloud that is configured with Cloud VPN. The security team wants to avoid data exfiltration by malicious insiders, compromised code, and accidental oversharing. What should they do?

- A. Configure Private Google Access for on-premises only.
- B. Perform the following tasks: 1) Create a service account. 2) Give the BigQuery JobUser role and Storage Reader role to the service account. 3) Remove all other IAM access from the project.
- C. Configure VPC Service Controls and configure Private Google Access.
- D. Configure Private Google Access.

**Answer:** C

**Explanation:**

<https://cloud.google.com/vpc-service-controls/docs/overview>

VPC Service Controls improves your ability to mitigate the risk of data exfiltration from Google Cloud services such as Cloud Storage and BigQuery.

#### NEW QUESTION 121

- (Exam Topic 5)

Your company is using Google Cloud. You have two folders under the Organization: Finance and Shopping. The members of the development team are in a Google Group. The development team group has been assigned the Project Owner role on the Organization. You want to prevent the development team from creating resources in projects in the Finance folder. What should you do?

- A. Assign the development team group the Project Viewer role on the Finance folder, and assign the development team group the Project Owner role on the Shopping folder.
- B. Assign the development team group only the Project Viewer role on the Finance folder.
- C. Assign the development team group the Project Owner role on the Shopping folder, and remove the development team group Project Owner role from the Organization.
- D. Assign the development team group only the Project Owner role on the Shopping folder.

**Answer:** C

**Explanation:**

<https://cloud.google.com/resource-manager/docs/cloud-platform-resource-hierarchy>

"Roles are always inherited, and there is no way to explicitly remove a permission for a lower-level resource that is granted at a higher level in the resource hierarchy. Given the above example, even if you were to remove the Project Editor role from Bob on the "Test GCP Project", he would still inherit that role from the "Dept Y" folder, so he would still have the permissions for that role on "Test GCP Project"."

Reference: <https://cloud.google.com/resource-manager/docs/creating-managing-folders>

#### NEW QUESTION 126

- (Exam Topic 5)

You are analyzing and defining business processes to support your startup's trial usage of GCP, and you don't yet know what consumer demand for your product will be. Your manager requires you to minimize GCP service costs and adhere to Google best practices. What should you do?

- A. Utilize free tier and sustained use discount
- B. Provision a staff position for service cost management.
- C. Utilize free tier and sustained use discount
- D. Provide training to the team about service cost management.
- E. Utilize free tier and committed use discount
- F. Provision a staff position for service cost management.
- G. Utilize free tier and committed use discount
- H. Provide training to the team about service cost management.

**Answer:** D

**Explanation:**

[https://cloud.google.com/docs/enterprise/best-practices-for-enterprise-organizations#billing\\_and\\_management](https://cloud.google.com/docs/enterprise/best-practices-for-enterprise-organizations#billing_and_management)

**NEW QUESTION 128**

- (Exam Topic 5)

A small number of API requests to your microservices-based application take a very long time. You know that each request to the API can traverse many services. You want to know which service takes the longest in those cases. What should you do?

- A. Set timeouts on your application so that you can fail requests faster.
- B. Send custom metrics for each of your requests to Stackdriver Monitoring.
- C. Use Stackdriver Monitoring to look for insights that show when your API latencies are high.
- D. Instrument your application with Stackdriver Trace in order to break down the request latencies at each microservice.

**Answer:** D

**Explanation:**

<https://cloud.google.com/trace/docs/overview>

**NEW QUESTION 129**

- (Exam Topic 5)

Your company has a stateless web API that performs scientific calculations. The web API runs on a single Google Kubernetes Engine (GKE) cluster. The cluster is currently deployed in us-central1. Your company has expanded to offer your API to customers in Asia. You want to reduce the latency for the users in Asia. What should you do?

- A. Use a global HTTP(s) load balancer with Cloud CDN enabled
- B. Create a second GKE cluster in asia-southeast1, and expose both API's using a Service of type Load Balance
- C. Add the public IPs to the Cloud DNS zone
- D. Increase the memory and CPU allocated to the application in the cluster
- E. Create a second GKE cluster in asia-southeast1, and use kubemci to create a global HTTP(s) load balancer

**Answer:** D

**Explanation:**

[https://cloud.google.com/kubernetes-engine/docs/concepts/multi-cluster-ingress#how\\_works](https://cloud.google.com/kubernetes-engine/docs/concepts/multi-cluster-ingress#how_works)

<https://github.com/GoogleCloudPlatform/k8s-multicloud-ingress> <https://cloud.google.com/blog/products/gcp/how-to-deploy-geographically-distributed-services-on-kubernetes-e>

**NEW QUESTION 134**

- (Exam Topic 5)

Your web application must comply with the requirements of the European Union's General Data Protection Regulation (GDPR). You are responsible for the technical architecture of your web application. What should you do?

- A. Ensure that your web application only uses native features and services of Google Cloud Platform, because Google already has various certifications and provides "pass-on" compliance when you use native features.
- B. Enable the relevant GDPR compliance setting within the GCP Console for each of the services in use within your application.
- C. Ensure that Cloud Security Scanner is part of your test planning strategy in order to pick up any compliance gaps.
- D. Define a design for the security of data in your web application that meets GDPR requirements.

**Answer:** D

**Explanation:**

<https://cloud.google.com/security/gdpr/?tab=tab4>

Reference: <https://www.mobiloud.com/blog/gdpr-compliant-mobile-app/>

**NEW QUESTION 137**

- (Exam Topic 5)

Your team is developing a web application that will be deployed on Google Kubernetes Engine (GKE). Your CTO expects a successful launch and you need to ensure your application can handle the expected load of tens of thousands of users. You want to test the current deployment to ensure the latency of your application stays below a certain threshold. What should you do?

- A. Use a load testing tool to simulate the expected number of concurrent users and total requests to your application, and inspect the results.
- B. Enable autoscaling on the GKE cluster and enable horizontal pod autoscaling on your application deployment
- C. Send curl requests to your application, and validate if the auto scaling works.
- D. Replicate the application over multiple GKE clusters in every Google Cloud region
- E. Configure a global HTTP(S) load balancer to expose the different clusters over a single global IP address.
- F. Use Cloud Debugger in the development environment to understand the latency between the different microservices.

**Answer:** B

**NEW QUESTION 140**

- (Exam Topic 5)

You are using Cloud CDN to deliver static HTTP(S) website content hosted on a Compute Engine instance group. You want to improve the cache hit ratio. What should you do?

- A. Customize the cache keys to omit the protocol from the key.
- B. Shorten the expiration time of the cached objects.
- C. Make sure the HTTP(S) header "Cache-Region" points to the closest region of your users.
- D. Replicate the static content in a Cloud Storage bucket
- E. Point CloudCDN toward a load balancer on that bucket

**Answer:** A

**Explanation:**

Reference [https://cloud.google.com/cdn/docs/bestpractices#using\\_custom\\_cache\\_keys\\_to\\_improve\\_cache\\_hit\\_ratio](https://cloud.google.com/cdn/docs/bestpractices#using_custom_cache_keys_to_improve_cache_hit_ratio)

**NEW QUESTION 141**

- (Exam Topic 5)

Your company is running its application workloads on Compute Engine. The applications have been deployed in production, acceptance, and development environments. The production environment is business-critical and is used 24/7, while the acceptance and development environments are only critical during office hours. Your CFO has asked you to optimize these environments to achieve cost savings during idle times. What should you do?

- A. Create a shell script that uses the `gcloud` command to change the machine type of the development and acceptance instances to a smaller machine type outside of office hour
- B. Schedule the shell script on one of the production instances to automate the task.
- C. Use Cloud Scheduler to trigger a Cloud Function that will stop the development and acceptance environments after office hours and start them just before office hours.
- D. Deploy the development and acceptance applications on a managed instance group and enable autoscaling.
- E. Use regular Compute Engine instances for the production environment, and use preemptible VMs for the acceptance and development environments.

**Answer:** B

**Explanation:**

Reference: <https://cloud.google.com/blog/products/it-ops/best-practices-for-optimizing-your-cloud-costs>

**NEW QUESTION 146**

- (Exam Topic 5)

You need to reduce the number of unplanned rollbacks of erroneous production deployments in your company's web hosting platform. Improvement to the QA/Test processes accomplished an 80% reduction. Which additional two approaches can you take to further reduce the rollbacks? Choose 2 answers

- A. Introduce a green-blue deployment model.
- B. Replace the QA environment with canary releases.
- C. Fragment the monolithic platform into microservices.
- D. Reduce the platform's dependency on relational database systems.
- E. Replace the platform's relational database systems with a NoSQL database.

**Answer:** AC

**NEW QUESTION 148**

- (Exam Topic 5)

A news feed web service has the following code running on Google App Engine. During peak load, users report that they can see news articles they already viewed. What is the most likely cause of this problem?

```
import news
from flask import Flask, redirect, request
from flask.ext.api import status
from google.appengine.api import users

app = Flask(__name__)
sessions = {}

@app.route("/")
def homepage():
    user = users.get_current_user()
    if not user:
        return "Invalid login",
        status.HTTP_401_UNAUTHORIZED

    if user not in sessions:
        sessions[user] = {"viewed": []}

    news_articles = news.get_new_news (user, sessions [user]
["viewed"])
    sessions [user] ["viewed"] += [n["id"] for n
in news_articles]

    return news.render(news_articles)

if __name__ == "__main__":
    app.run()
```

- A. The session variable is local to just a single instance.
- B. The session variable is being overwritten in Cloud Datastore.
- C. The URL of the API needs to be modified to prevent caching.
- D. The HTTP Expires header needs to be set to -1 to stop caching.



**Answer:** A

**Explanation:**

<https://stackoverflow.com/questions/3164280/google-app-engine-cache-list-in-session-variable?rq=1>

#### NEW QUESTION 150

- (Exam Topic 5)

Your company places a high value on being responsive and meeting customer needs quickly. Their primary business objectives are release speed and agility. You want to reduce the chance of security errors being accidentally introduced. Which two actions can you take? Choose 2 answers

- A. Ensure every code check-in is peer reviewed by a security SME.
- B. Use source code security analyzers as part of the CI/CD pipeline.
- C. Ensure you have stubs to unit test all interfaces between components.
- D. Enable code signing and a trusted binary repository integrated with your CI/CD pipeline.
- E. Run a vulnerability security scanner as part of your continuous-integration /continuous-delivery (CI/CD) pipeline.

**Answer:** BE

**Explanation:**

<https://docs.microsoft.com/en-us/vsts/articles/security-validation-cicd-pipeline?view=vsts>

#### NEW QUESTION 151

- (Exam Topic 5)

You want to enable your running Google Container Engine cluster to scale as demand for your application changes. What should you do?

- A. Add additional nodes to your Container Engine cluster using the following command: `gcloud container clusters resize CLUSTER_NAME --size 10`
- B. Add a tag to the instances in the cluster with the following command: `gcloud compute instances add-tags INSTANCE --tags enable --autoscaling max-nodes=10`
- C. Update the existing Container Engine cluster with the following command: `gcloud alpha container clusters update mycluster --enable-autoscaling --min-nodes=1 --max-nodes=10`
- D. Create a new Container Engine cluster with the following command: `gcloud alpha container clusters create mycluster --enable-autocaling --min-nodes=1 --max-nodes=10` and redeploy your application.

**Answer:** B

**Explanation:**

<https://cloud.google.com/kubernetes-engine/docs/concepts/cluster-autoscaler> Cluster autoscaling

`--enable-autoscaling`

Enables autoscaling for a node pool.

Enables autoscaling in the node pool specified by `--node-pool` or the default node pool if `--node-pool` is not provided.

Where:

`--max-nodes=MAX_NODES`

Maximum number of nodes in the node pool.

Maximum number of nodes to which the node pool specified by `--node-pool` (or default node pool if unspecified) can scale.

#### NEW QUESTION 152

- (Exam Topic 5)

During a high traffic portion of the day, one of your relational databases crashes, but the replica is never promoted to a master. You want to avoid this in the future. What should you do?

- A. Use a different database.
- B. Choose larger instances for your database.
- C. Create snapshots of your database more regularly.
- D. Implement routinely scheduled failovers of your databases.

**Answer:** D

**Explanation:**

<https://cloud.google.com/solutions/dr-scenarios-planning-guide>

#### NEW QUESTION 154

- (Exam Topic 5)

Your company is planning to perform a lift and shift migration of their Linux RHEL 6.5+ virtual machines. The virtual machines are running in an on-premises VMware environment. You want to migrate them to Compute Engine following Google-recommended practices. What should you do?

- A. \* 1. Define a migration plan based on the list of the applications and their dependencies.\* 2. Migrate all virtual machines into Compute Engine individually with Migrate for Compute Engine.
- B. \* 1. Perform an assessment of virtual machines running in the current VMware environment.\* 2. Create images of all disk
- C. Import disks on Compute Engine.\* 3. Create standard virtual machines where the boot disks are the ones you have imported.
- D. \* 1. Perform an assessment of virtual machines running in the current VMware environment.\* 2. Define a migration plan, prepare a Migrate for Compute Engine migration RunBook, and execute the migration.
- E. \* 1. Perform an assessment of virtual machines running in the current VMware environment.\* 2. Install a third-party agent on all selected virtual machine
- F. 3.Migrate all virtual machines into Compute Engine.

**Answer:** C

**Explanation:**

The framework illustrated in the preceding diagram has four phases:

- Assess. In this phase, you assess your source environment, assess the workloads that you want to migrate to Google Cloud, and assess which VMs support each workload.
  - Plan. In this phase, you create the basic infrastructure for Migrate for Compute Engine, such as provisioning the resource hierarchy and setting up network access.
  - Deploy. In this phase, you migrate the VMs from the source environment to Compute Engine.
  - Optimize. In this phase, you begin to take advantage of the cloud technologies and capabilities.
- Reference: <https://cloud.google.com/architecture/migrating-vms-migrate-for-compute-engine-getting-started>

#### NEW QUESTION 158

- (Exam Topic 5)

You write a Python script to connect to Google BigQuery from a Google Compute Engine virtual machine. The script is printing errors that it cannot connect to BigQuery. What should you do to fix the script?

- A. Install the latest BigQuery API client library for Python
- B. Run your script on a new virtual machine with the BigQuery access scope enabled
- C. Create a new service account with BigQuery access and execute your script with that user
- D. Install the bq component for gcloud with the command `gcloud components install bq`.

**Answer:** B

#### Explanation:

The error is most like caused by the access scope issue. When create new instance, you have the default Compute engine default service account but most serves access including BigQuery is not enable. Create an instance Most access are not enabled by default You have default service account but don't have the permission (scope) you can stop the instance, edit, change scope and restart it to enable the scope access. Of course, if you Run your script on a new virtual machine with the BigQuery access scope enabled, it also works  
<https://cloud.google.com/compute/docs/access/service-accounts>

#### NEW QUESTION 162

- (Exam Topic 5)

Your company pushes batches of sensitive transaction data from its application server VMs to Cloud Pub/Sub for processing and storage. What is the Google-recommended way for your application to authenticate to the required Google Cloud services?

- A. Ensure that VM service accounts are granted the appropriate Cloud Pub/Sub IAM roles.
- B. Ensure that VM service accounts do not have access to Cloud Pub/Sub, and use VM access scopes to grant the appropriate Cloud Pub/Sub IAM roles.
- C. Generate an OAuth2 access token for accessing Cloud Pub/Sub, encrypt it, and store it in Cloud Storage for access from each VM.
- D. Create a gateway to Cloud Pub/Sub using a Cloud Function, and grant the Cloud Function service account the appropriate Cloud Pub/Sub IAM roles.

**Answer:** A

#### NEW QUESTION 165

- (Exam Topic 5)

You have deployed an application on Anthos clusters (formerly Anthos GKE). According to the SRE practices at your company you need to be alerted if the request latency is above a certain threshold for a specified amount of time. What should you do?

- A. Enable the Cloud Trace API on your project and use Cloud Monitoring Alerts to send an alert based on the Cloud Trace metrics
- B. Configure Anthos Config Management on your cluster and create a yaml file that defines the SLO and alerting policy you want to deploy in your cluster
- C. Use Cloud Profiler to follow up the request latenc
- D. Create a custom metric in Cloud Monitoring based on the results of Cloud Profiler, and create an Alerting Policy in case this metric exceeds the threshold
- E. Install Anthos Service Mesh on your cluste
- F. Use the Google Cloud Console to define a Service Level Objective (SLO)

**Answer:** D

#### Explanation:

<https://cloud.google.com/service-mesh/docs/overview> <https://cloud.google.com/service-mesh/docs/observability/slo-overview>

#### NEW QUESTION 167

- (Exam Topic 5)

Your company's user-feedback portal comprises a standard LAMP stack replicated across two zones. It is deployed in the us-central1 region and uses autoscaled managed instance groups on all layers, except the database. Currently, only a small group of select customers have access to the portal. The portal meets a 99.99% availability SLA under these conditions However next quarter, your company will be making the portal available to all users, including unauthenticated users. You need to develop a resiliency testing strategy to ensure the system maintains the SLA once they introduce additional user load. What should you do?

- A. Capture existing users input, and replay captured user load until autoscale is triggered on all layer
- B. At the same time, terminate all resources in one of the zones.
- C. Create synthetic random user input, replay synthetic load until autoscale logic is triggered on at least one layer, and introduce "chaos" to the system by terminating random resources on both zones.
- D. Expose the new system to a larger group of users, and increase group ' size each day until autoscale logic is tnggered on all layer
- E. At the same time, terminate random resources on both zones.
- F. Capture existing users input, and replay captured user load until resource utilization crosses 80%. Also, derive estimated number of users based on existing users usage of the app, and deploy enough resources to handle 200% of expected load.

**Answer:** A

#### NEW QUESTION 170

- (Exam Topic 5)

A development manager is building a new application He asks you to review his requirements and identify what cloud technologies he can use to meet them. The application must

- \* 1. Be based on open-source technology for cloud portability
- \* 2. Dynamically scale compute capacity based on demand
- \* 3. Support continuous software delivery
- \* 4. Run multiple segregated copies of the same application stack
- \* 5. Deploy application bundles using dynamic templates
- \* 6. Route network traffic to specific services based on URL

Which combination of technologies will meet all of his requirements?

- A. Google Container Engine, Jenkins, and Helm
- B. Google Container Engine and Cloud Load Balancing
- C. Google Compute Engine and Cloud Deployment Manager
- D. Google Compute Engine, Jenkins, and Cloud Load Balancing

**Answer:** A

**Explanation:**

Helm for managing Kubernetes

Kubernetes can base on the URL to route traffic to different location (path) <https://cloud.google.com/kubernetes-engine/docs/tutorials/http-balancer> eg. apiVersion: networking.k8s.io/v1beta1

kind: Ingress metadata:

name: fanout-ingress spec:

rules:

- http: paths:

- path: /\* backend: serviceName: web servicePort: 8080

- path: /v2/\* backend: serviceName: web2 servicePort: 8080

**NEW QUESTION 173**

- (Exam Topic 5)

You have an application that makes HTTP requests to Cloud Storage. Occasionally the requests fail with HTTP status codes of 5xx and 429. How should you handle these types of errors?

- A. Use gRPC instead of HTTP for better performance.
- B. Implement retry logic using a truncated exponential backoff strategy.
- C. Make sure the Cloud Storage bucket is multi-regional for geo-redundancy.
- D. Monitor <https://status.cloud.google.com/feed.atom> and only make requests if Cloud Storage is not reporting an incident.

**Answer:** A

**Explanation:**

Reference [https://cloud.google.com/storage/docs/json\\_api/v1/status-codes](https://cloud.google.com/storage/docs/json_api/v1/status-codes)

**NEW QUESTION 176**

- (Exam Topic 5)

Your company is developing a web-based application. You need to make sure that production deployments are linked to source code commits and are fully auditable. What should you do?

- A. Make sure a developer is tagging the code commit with the date and time of commit
- B. Make sure a developer is adding a comment to the commit that links to the deployment.
- C. Make the container tag match the source code commit hash.
- D. Make sure the developer is tagging the commits with :latest

**Answer:** C

**Explanation:**

From: <https://cloud.google.com/architecture/best-practices-for-building-containers> Under: Tagging using the Git commit hash (bottom of page almost)

"In this case, a common way of handling version numbers is to use the Git commit SHA-1 hash (or a short version of it) as the version number. By design, the Git commit hash is immutable and references a specific version of your software.

You can use this commit hash as a version number for your software, but also as a tag for the Docker image built from this specific version of your software. Doing so makes Docker images traceable: because in this case the image tag is immutable, you instantly know which specific version of your software is running inside a given container."

**NEW QUESTION 180**

- (Exam Topic 5)

Your company is running a stateless application on a Compute Engine instance. The application is used heavily during regular business hours and lightly outside of business hours. Users are reporting that the application is slow during peak hours. You need to optimize the application's performance. What should you do?

- A. Create a snapshot of the existing disk
- B. Create an instance template from the snapshot
- C. Create an autoscaled managed instance group from the instance template.
- D. Create a snapshot of the existing disk
- E. Create a custom image from the snapshot
- F. Create an autoscaled managed instance group from the custom image.
- G. Create a custom image from the existing disk
- H. Create an instance template from the custom image. Create an autoscaled managed instance group from the instance template.
- I. Create an instance template from the existing disk
- J. Create a custom image from the instance template. Create an autoscaled managed instance group from the custom image.

**Answer:** B

**Explanation:**

<https://cloud.google.com/compute/docs/instance-templates/create-instance-templates>

**NEW QUESTION 185**

- (Exam Topic 5)

Your company has an application running on Compute Engine that allows users to play their favorite music. There are a fixed number of instances. Files are stored in Cloud Storage and data is streamed directly to users. Users are reporting that they sometimes need to attempt to play popular songs multiple times before they are successful. You need to improve the performance of the application. What should you do?

- A. \* 1. Copy popular songs into CloudSQL as a blob\* 2. Update application code to retrieve data from CloudSQL when Cloud Storage is overloaded
- B. \* 1. Create a managed instance group with Compute Engine instances\* 2. Create a global load balancer and configure it with two backends\* Managed instance group\* Cloud Storage bucket\* 3. Enable Cloud CDN on the bucket backend
- C. \* 1. Mount the Cloud Storage bucket using gcsfuse on all backend Compute Engine instances\* 2. Serve music files directly from the backend Compute Engine instance
- D. \* 1. Create a Cloud Filestore NFS volume and attach it to the backend Compute Engine instances\* 2. Download popular songs in Cloud Filestore\* 3. Serve music files directly from the backend Compute Engine instance

**Answer: B**

**NEW QUESTION 188**

- (Exam Topic 5)

Your operations team currently stores 10 TB of data in an object storage service from a third-party provider. They want to move this data to a Cloud Storage bucket as quickly as possible, following Google-recommended practices. They want to minimize the cost of this data migration. Which approach should they use?

- A. Use the `gsutil mv` command to move the data
- B. Use the Storage Transfer Service to move the data
- C. Download the data to a Transfer Appliance and ship it to Google
- D. Download the data to the on-premises data center and upload it to the Cloud Storage bucket

**Answer: B**

**Explanation:**

<https://cloud.google.com/architecture/migration-to-google-cloud-transferring-your-large-datasets#transfer-options> <https://cloud.google.com/storage-transfer-service>

**NEW QUESTION 189**

- (Exam Topic 5)

Your web application has several VM instances running within a VPC. You want to restrict communications between instances to only the paths and ports you authorize, but you don't want to rely on static IP addresses or subnets because the app can autoscale. How should you restrict communications?

- A. Use separate VPCs to restrict traffic
- B. Use firewall rules based on network tags attached to the compute instances
- C. Use Cloud DNS and only allow connections from authorized hostnames
- D. Use service accounts and configure the web application particular service accounts to have access

**Answer: B**

**NEW QUESTION 191**

- (Exam Topic 5)

You are deploying a PHP App Engine Standard service with SQL as the backend. You want to minimize the number of queries to the database. What should you do?

- A. Set the memcache service level to dedicated
- B. Create a key from the hash of the query, and return database values from memcache before issuing a query to Cloud SQL.
- C. Set the memcache service level to shared
- D. Create a cron task that runs every minute to populate the cache with keys containing query results.
- E. Set the memcache service level to shared
- F. Create a cron task that runs every minute to save all expected queries to a key called "cached-queries".
- G. Set the memcache service level to shared
- H. Create a key called "cached-queries", and return database values from the key before using a query to Cloud SQL.

**Answer: A**

**Explanation:**

<https://cloud.google.com/appengine/docs/standard/php/memcache/using>

**NEW QUESTION 192**

- (Exam Topic 5)

A development team at your company has created a Dockerized HTTPS web application. You need to deploy the application on Google Kubernetes Engine (GKE) and make sure that the application scales automatically. How should you deploy to GKE?

- A. Use the Horizontal Pod Autoscaler and enable cluster autoscaling
- B. Use an Ingress resource to loadbalance the HTTPS traffic.
- C. Use the Horizontal Pod Autoscaler and enable cluster autoscaling on the Kubernetes cluster
- D. Use a Service resource of type LoadBalancer to load-balance the HTTPS traffic.
- E. Enable autoscaling on the Compute Engine instance group
- F. Use an Ingress resource to load balance the HTTPS traffic.



- G. Enable autoscaling on the Compute Engine instance group.
- H. Use a Service resource of type LoadBalancer to load-balance the HTTPS traffic.

**Answer:** B

**Explanation:**

<https://cloud.google.com/kubernetes-engine/docs/tutorials/http-balancer> <https://cloud.google.com/kubernetes-engine/docs/concepts/network-overview#ext-lb>

**NEW QUESTION 196**

- (Exam Topic 5)

Your company is using BigQuery as its enterprise data warehouse. Data is distributed over several Google Cloud projects. All queries on BigQuery need to be billed on a single project. You want to make sure that no query costs are incurred on the projects that contain the data. Users should be able to query the datasets, but not edit them.

How should you configure users' access roles?

- A. Add all users to a group.
- B. Grant the group the role of BigQuery user on the billing project and BigQuery dataViewer on the projects that contain the data.
- C. Add all users to a group.
- D. Grant the group the roles of BigQuery dataViewer on the billing project and BigQuery user on the projects that contain the data.
- E. Add all users to a group.
- F. Grant the group the roles of BigQuery jobUser on the billing project and BigQuery dataViewer on the projects that contain the data.
- G. Add all users to a group.
- H. Grant the group the roles of BigQuery dataViewer on the billing project and BigQuery jobUser on the projects that contain the data.

**Answer:** A

**Explanation:**

Reference: <https://cloud.google.com/bigquery/docs/running-queries>

**NEW QUESTION 201**

- (Exam Topic 5)

Your solution is producing performance bugs in production that you did not see in staging and test environments. You want to adjust your test and deployment procedures to avoid this problem in the future. What should you do?

- A. Deploy fewer changes to production.
- B. Deploy smaller changes to production.
- C. Increase the load on your test and staging environments.
- D. Deploy changes to a small subset of users before rolling out to production.

**Answer:** C

**NEW QUESTION 206**

- (Exam Topic 5)

A production database virtual machine on Google Compute Engine has an ext4-formatted persistent disk for data files. The database is about to run out of storage space. How can you remediate the problem with the least amount of downtime?

- A. In the Cloud Platform Console, increase the size of the persistent disk and use the `resize2fs` command in Linux.
- B. Shut down the virtual machine, use the Cloud Platform Console to increase the persistent disk size, then restart the virtual machine.
- C. In the Cloud Platform Console, increase the size of the persistent disk and verify the new space is ready to use with the `fdisk` command in Linux.
- D. In the Cloud Platform Console, create a new persistent disk attached to the virtual machine, format and mount it, and configure the database service to move the files to the new disk.
- E. In the Cloud Platform Console, create a snapshot of the persistent disk, restore the snapshot to a new larger disk, unmount the old disk, mount the new disk, and restart the database service.

**Answer:** A

**Explanation:**

On Linux instances, connect to your instance and manually resize your partitions and file systems to use the additional disk space that you added.

Extend the file system on the disk or the partition to use the added space. If you grew a partition on your disk, specify the partition. If your disk does not have a partition table, specify only the disk ID.

```
sudo resize2fs /dev/[DISK_ID][PARTITION_NUMBER]
```

where [DISK\_ID] is the device name and [PARTITION\_NUMBER] is the partition number for the device where you are resizing the file system.

References: <https://cloud.google.com/compute/docs/disks/add-persistent-disk>

**NEW QUESTION 210**

- (Exam Topic 5)

You have an application that runs in Google Kubernetes Engine (GKE). Over the last 2 weeks, customers have reported that a specific part of the application returns errors very frequently. You currently have no logging or monitoring solution enabled on your GKE cluster. You want to diagnose the problem, but you have not been able to replicate the issue. You want to cause minimal disruption to the application. What should you do?

- A. \* 1. Update your GKE cluster to use Cloud Operations for GKE.\* 2. Use the GKE Monitoring dashboard to investigate logs from affected Pods.
- B. \* 1. Create a new GKE cluster with Cloud Operations for GKE enabled.\* 2. Migrate the affected Pods to the new cluster, and redirect traffic for those Pods to the new cluster.\* 3. Use the GKE Monitoring dashboard to investigate logs from affected Pods.
- C. \* 1. Update your GKE cluster to use Cloud Operations for GKE, and deploy Prometheus.\* 2. Set an alert to trigger whenever the application returns an error.
- D. \* 1. Create a new GKE cluster with Cloud Operations for GKE enabled, and deploy Prometheus.\* 2. Migrate the affected Pods to the new cluster, and redirect traffic for those Pods to the new cluster.\* 3. Set an alert to trigger whenever the application returns an error.
- E. \* 3. Set an alert to trigger whenever the application returns an error.

**Answer:** A

**Explanation:**

Reference: <https://cloud.google.com/blog/products/management-tools/using-logging-your-apps-running-kubernetes-engine>

**NEW QUESTION 212**

- (Exam Topic 5)

Your development team has installed a new Linux kernel module on the batch servers in Google Compute Engine (GCE) virtual machines (VMs) to speed up the nightly batch process. Two days after the installation, 50% of web application deployed in the same nightly batch run. You want to collect details on the failure to pass back to the development team. Which three actions should you take? Choose 3 answers

- A. Use Stackdriver Logging to search for the module log entries.
- B. Read the debug GCE Activity log using the API or Cloud Console.
- C. Use gcloud or Cloud Console to connect to the serial console and observe the logs.
- D. Identify whether a live migration event of the failed server occurred, using in the activity log.
- E. Adjust the Google Stackdriver timeline to match the failure time, and observe the batch server metrics.
- F. Export a debug VM into an image, and run the image on a local server where kernel log messages will be displayed on the native screen.

**Answer:** ACE

**Explanation:**

<https://www.flexera.com/blog/cloud/2013/12/google-compute-engine-live-migration-passes-the-test/> "With live migration, the virtual machines are moved without any downtime or noticeable service degradation"

**NEW QUESTION 215**

- (Exam Topic 5)

You are creating a solution to remove backup files older than 90 days from your backup Cloud Storage bucket. You want to optimize ongoing Cloud Storage spend. What should you do?

- A. Write a lifecycle management rule in XML and push it to the bucket with gsutil.
- B. Write a lifecycle management rule in JSON and push it to the bucket with gsutil.
- C. Schedule a cron script using gsutil ls -lr gs://backups/\*\* to find and remove items older than 90 days.
- D. Schedule a cron script using gsutil ls -1 gs://backups/\*\* to find and remove items older than 90 days and schedule it with cron.

**Answer:** B

**Explanation:**

<https://cloud.google.com/storage/docs/gsutil/commands/lifecycle>

**NEW QUESTION 217**

- (Exam Topic 5)

You have an application that will run on Compute Engine. You need to design an architecture that takes into account a disaster recovery plan that requires your application to fail over to another region in case of a regional outage. What should you do?

- A. Deploy the application on two Compute Engine instances in the same project but in a different region. Use the first instance to serve traffic, and use the HTTP load balancing service to fail over to the standby instance in case of a disaster.
- B. Deploy the application on a Compute Engine instance
- C. Use the instance to serve traffic, and use the HTTP load balancing service to fail over to an instance on your premises in case of a disaster.
- D. Deploy the application on two Compute Engine instance groups, each in the same project but in a different region
- E. Use the first instance group to serve traffic, and use the HTTP load balancing service to fail over to the standby instance group in case of a disaster.
- F. Deploy the application on two Compute Engine instance groups, each in separate project and a different region
- G. Use the first instance group to serve traffic, and use the HTTP load balancing service to fail over to the standby instance in case of a disaster.

**Answer:** C

**NEW QUESTION 218**

- (Exam Topic 5)

You have a Python web application with many dependencies that requires 0.1 CPU cores and 128 MB of memory to operate in production. You want to monitor and maximize machine utilization. You also to reliably deploy new versions of the application. Which set of steps should you take?

- A. Perform the following: 1) Create a managed instance group with f1-micro type machines. 2) Use a startup script to clone the repository, check out the production branch, install the dependencies, and start the Python app. 3) Restart the instances to automatically deploy new production releases.
- B. Perform the following: 1) Create a managed instance group with n1-standard-1 type machines. 2) Build a Compute Engine image from the production branch that contains all of the dependencies and automatically starts the Python app. 3) Rebuild the Compute Engine image, and update the instance template to deploy new production releases.
- C. Perform the following: 1) Create a Kubernetes Engine cluster with n1-standard-1 type machines. 2) Build a Docker image from the production branch with all of the dependencies, and tag it with the version number. 3) Create a Kubernetes Deployment with the imagePullPolicy set to "IfNotPresent" in the staging namespace, and then promote it to the production namespace after testing.
- D. Perform the following: 1) Create a Kubernetes Engine (GKE) cluster with n1-standard-4 type machines. 2) Build a Docker image from the master branch with all of the dependencies, and tag it with "latest". 3) Create a Kubernetes Deployment in the default namespace with the imagePullPolicy set to "Always". Restart the pods to automatically deploy new production releases.

**Answer:** D

**Explanation:**

<https://cloud.google.com/compute/docs/instance-templates>

**NEW QUESTION 222**

- (Exam Topic 5)

Your operations team has asked you to help diagnose a performance issue in a production application that runs on Compute Engine. The application is dropping requests that reach it when under heavy load. The process list for affected instances shows a single application process that is consuming all available CPU, and autoscaling has reached the upper limit of instances. There is no abnormal load on any other related systems, including the database. You want to allow production traffic to be served again as quickly as possible. Which action should you recommend?

- A. Change the autoscaling metric to agent.googleapis.com/memory/percent\_used.
- B. Restart the affected instances on a staggered schedule.
- C. SSH to each instance and restart the application process.
- D. Increase the maximum number of instances in the autoscaling group.

**Answer: D**

**Explanation:**

Reference: <https://cloud.google.com/blog/products/sap-google-cloud/best-practices-for-sap-app-server-autoscaling-on-google-cloud>

**NEW QUESTION 225**

- (Exam Topic 5)

Your company has a networking team and a development team. The development team runs applications on Compute Engine instances that contain sensitive data. The development team requires administrative permissions for Compute Engine. Your company requires all network resources to be managed by the networking team. The development team does not want the networking team to have access to the sensitive data on the instances. What should you do?

- A. \* 1. Create a project with a standalone VPC and assign the Network Admin role to the networking team.\* 2. Create a second project with a standalone VPC and assign the Compute Admin role to the development team.\* 3. Use Cloud VPN to join the two VPCs.
- B. \* 1. Create a project with a standalone Virtual Private Cloud (VPC), assign the Network Admin role to the networking team, and assign the Compute Admin role to the development team.
- C. \* 1. Create a project with a Shared VPC and assign the Network Admin role to the networking team.\* 2. Create a second project without a VPC, configure it as a Shared VPC service project, and assign the Compute Admin role to the development team.
- D. \* 1. Create a project with a standalone VPC and assign the Network Admin role to the networking team.\* 2. Create a second project with a standalone VPC and assign the Compute Admin role to the development team.\* 3. Use VPC Peering to join the two VPCs.

**Answer: C**

**Explanation:**

In this scenario, a large organization has a central team that manages security and networking controls for the entire organization. Developers do not have permissions to make changes to any network or security settings defined by the security and networking team but they are granted permission to create resources such as virtual machines in shared subnets. To facilitate this the organization makes use of a shared VPC (Virtual Private Cloud). A shared VPC allows creation of a VPC network of RFC 1918 IP spaces that associated projects (service projects) can then use. Developers using the associated projects can create VM instances in the shared VPC network spaces. The organization's network and security admins can create subnets, VPNs, and firewall rules usable by all the projects in the VPC network.

[https://cloud.google.com/iam/docs/job-functions/networking#single\\_team\\_manages\\_security\\_network\\_for\\_orga](https://cloud.google.com/iam/docs/job-functions/networking#single_team_manages_security_network_for_orga)

Reference: <https://cloud.google.com/vpc/docs/shared-vpc>

**NEW QUESTION 227**

- (Exam Topic 5)

Your company has a support ticketing solution that uses App Engine Standard. The project that contains the App Engine application already has a Virtual Private Cloud(VPC) network fully connected to the company's on-premises environment through a Cloud VPN tunnel. You want to enable App Engine application to communicate with a database that is running in the company's on-premises environment. What should you do?

- A. Configure private services access
- B. Configure private Google access for on-premises hosts only
- C. Configure serverless VPC access
- D. Configure private Google access

**Answer: C**

**Explanation:**

<https://cloud.google.com/appengine/docs/standard/python3/connecting-vpc> [https://cloud.google.com/appengine/docs/flexible/python/using-third-party-databases#on\\_premises](https://cloud.google.com/appengine/docs/flexible/python/using-third-party-databases#on_premises)

**NEW QUESTION 230**

- (Exam Topic 5)

You are developing an application using different microservices that should remain internal to the cluster. You want to be able to configure each microservice with a specific number of replicas. You also want to be able to address a specific microservice from any other microservice in a uniform way, regardless of the number of replicas the microservice scales to. You need to implement this solution on Google Kubernetes Engine. What should you do?

- A. Deploy each microservice as a Deployment
- B. Expose the Deployment in the cluster using a Service, and use the Service DNS name to address it from other microservices within the cluster.
- C. Deploy each microservice as a Deployment
- D. Expose the Deployment in the cluster using an Ingress, and use the Ingress IP address to address the Deployment from other microservices within the cluster.
- E. Deploy each microservice as a Pod
- F. Expose the Pod in the cluster using a Service, and use the Service DNS name to address the microservice from other microservices within the cluster.
- G. Deploy each microservice as a Pod
- H. Expose the Pod in the cluster using an Ingress, and use the Ingress IP address name to address the Pod from other microservices within the cluster.

**Answer: A**

**Explanation:**

<https://kubernetes.io/docs/concepts/services-networking/ingress/>

#### NEW QUESTION 232

- (Exam Topic 5)

Your company has an application running on a deployment in a GKE cluster. You have a separate cluster for development, staging and production. You have discovered that the team is able to deploy a Docker image to the production cluster without first testing the deployment in development and then staging. You want to allow the team to have autonomy but want to prevent this from happening. You want a Google Cloud solution that can be implemented quickly with minimal effort. What should you do?

- A. Create a Kubernetes admission controller to prevent the container from starting if it is not approved for usage in the given environment
- B. Configure a Kubernetes lifecycle hook to prevent the container from starting if it is not approved for usage in the given environment
- C. Implement a corporate policy to prevent teams from deploying Docker image to an environment unless the Docker image was tested in an earlier environment
- D. Configure the binary authorization policies for the development, staging and production cluster
- E. Create attestations as part of the continuous integration pipeline”

**Answer:** D

#### Explanation:

<https://cloud.google.com/architecture/prep-kubernetes-engine-for-prod#binary-authorization>

The most common Binary Authorization use cases involve attestations. An attestation certifies that a specific image has completed a previous stage, as described previously. You configure the Binary Authorization policy to verify the attestation before allowing the image to be deployed. At deploy time, instead of redoing activities that were completed in earlier stages, Binary Authorization only needs to verify the attestation. <https://cloud.google.com/binary-authorization/docs/overview>

#### NEW QUESTION 237

- (Exam Topic 5)

You want your Google Kubernetes Engine cluster to automatically add or remove nodes based on CPUload. What should you do?

- A. Configure a HorizontalPodAutoscaler with a target CPU usag
- B. Enable the Cluster Autoscaler from the GCP Console.
- C. Configure a HorizontalPodAutoscaler with a target CPU usag
- D. Enable autoscaling on the managed instance group for the cluster using the gcloud command.
- E. Create a deployment and set the maxUnavailable and maxSurge propertie
- F. Enable the Cluster Autoscaler using the gcloud command.
- G. Create a deployment and set the maxUnavailable and maxSurge propertie
- H. Enable autoscaling on the cluster managed instance group from the GCP Console.

**Answer:** B

#### NEW QUESTION 240

- (Exam Topic 5)

You need to develop procedures to verify resilience of disaster recovery for remote recovery using GCP. Your production environment is hosted on-premises. You need to establish a secure, redundant connection between your on premises network and the GCP network. What should you do?

- A. Verify that Dedicated Interconnect can replicate files to GC
- B. Verify that direct peering can establish a secure connection between your networks if Dedicated Interconnect fails.
- C. Verify that Dedicated Interconnect can replicate files to GC
- D. Verify that Cloud VPN can establish a secure connection between your networks if Dedicated Interconnect fails.
- E. Verify that the Transfer Appliance can replicate files to GC
- F. Verify that direct peering can establish a secure connection between your networks if the Transfer Appliance fails.
- G. Verify that the Transfer Appliance can replicate files to GC
- H. Verify that Cloud VPN can establish a secure connection between your networks if the Transfer Appliance fails.

**Answer:** B

#### Explanation:

<https://cloud.google.com/interconnect/docs/how-to/direct-peering>

#### NEW QUESTION 244

- (Exam Topic 5)

You are implementing a single Cloud SQL MySQL second-generation database that contains business-critical transaction data. You want to ensure that the minimum amount of data is lost in case of catastrophic failure. Which two features should you implement? (Choose two.)

- A. Sharding
- B. Read replicas
- C. Binary logging
- D. Automated backups
- E. Semisynchronous replication

**Answer:** CD

#### Explanation:

Backups help you restore lost data to your Cloud SQL instance. Additionally, if an instance is having a problem, you can restore it to a previous state by using the backup to overwrite it. Enable automated backups for any instance that contains necessary data. Backups protect your data from loss or damage.

Enabling automated backups, along with binary logging, is also required for some operations, such as clone and replica creation.

Reference: <https://cloud.google.com/sql/docs/mysql/backup-recovery/backups>

#### NEW QUESTION 247

- (Exam Topic 5)

An application development team believes their current logging tool will not meet their needs for their new cloud-based product. They want a better tool to capture



errors and help them analyze their historical log data. You want to help them find a solution that meets their needs, what should you do?

- A. Direct them to download and install the Google StackDriver logging agent.
- B. Send them a list of online resources about logging best practices.
- C. Help them define their requirements and assess viable logging tools.
- D. Help them upgrade their current tool to take advantage of any new features.

**Answer: C**

**Explanation:**

Help them define their requirements and assess viable logging tools. They know the requirements and the existing tools' problems. While it's true StackDriver Logging and Error Reporting possibly meet all their requirements, there might be other tools also meet their need. They need you to provide expertise to make assessment for new tools, specifically, logging tools that can "capture errors and help them analyze their historical log data".

References: <https://cloud.google.com/logging/docs/agent/installation>

**NEW QUESTION 250**

- (Exam Topic 5)

You want to establish a Compute Engine application in a single VPC across two regions. The application must communicate over VPN to an on-premises network. How should you deploy the VPN?

- A. Use VPC Network Peering between the VPC and the on-premises network.
- B. Expose the VPC to the on-premises network using IAM and VPC Sharing.
- C. Create a global Cloud VPN Gateway with VPN tunnels from each region to the on-premises peer gateway.
- D. Deploy Cloud VPN Gateway in each region
- E. Ensure that each region has at least one VPN tunnel to the on-premises peer gateway.

**Answer: C**

**Explanation:**

<https://cloud.google.com/vpn/docs/how-to/creating-static-vpns>

**NEW QUESTION 253**

- (Exam Topic 5)

Your company and one of its partners each have a Google Cloud project in separate organizations. Your company's project (prj-a) runs in Virtual Private Cloud (vpc-a). The partner's project (prj-b) runs in vpc-b. There are two instances running on vpc-a and one instance running on vpc-b. Subnets defined in both VPCs are not overlapping. You need to ensure that all instances communicate with each other via internal IPs minimizing latency and maximizing throughput. What should you do?

- A. Set up a network peering between vpc-a and vpc-b
- B. Set up a VPN between vpc-a and vpc-b using Cloud VPN
- C. Configure IAP TCP forwarding on the instance in vpc-b and then launch the following gcloud command from one of the instances in vpc-a: `gcloud compute start-l4s-tunnel INSTANCE_NAME_VPC_A --local-host-port=localhost:22`
- \* 1. Create an additional instance in vpc-a\* 2. Create an additional instance in vpc-b\* 3. Install OpenVPN in newly created instances\* 4. Configure a VPN tunnel between vpc-a and vpc-b with the help of OpenVPN

**Answer: C**

**NEW QUESTION 255**

- (Exam Topic 5)

You are helping the QA team to roll out a new load-testing tool to test the scalability of your primary cloud services that run on Google Compute Engine with Cloud Bigtable. Which three requirements should they include? Choose 3 answers

- A. Ensure that the load tests validate the performance of Cloud Bigtable.
- B. Create a separate Google Cloud project to use for the load-testing environment.
- C. Schedule the load-testing tool to regularly run against the production environment.
- D. Ensure all third-party systems your services use are capable of handling high load.
- E. Instrument the production services to record every transaction for replay by the load-testing tool.
- F. Instrument the load-testing tool and the target services with detailed logging and metrics collection.

**Answer: ABF**

**NEW QUESTION 258**

- (Exam Topic 5)

Your company provides a recommendation engine for retail customers. You are providing retail customers with an API where they can submit a user ID and the API returns a list of recommendations for that user. You are responsible for the API lifecycle and want to ensure stability for your customers in case the API makes backward-incompatible changes. You want to follow Google-recommended practices. What should you do?

- A. Create a distribution list of all customers to inform them of an upcoming backward-incompatible change at least one month before replacing the old API with the new API.
- B. Create an automated process to generate API documentation, and update the public API documentation as part of the CI/CD process when deploying an update to the API.
- C. Use a versioning strategy for the APIs that increases the version number on every backward-incompatible change.
- D. Use a versioning strategy for the APIs that adds the suffix "DEPRECATED" to the current API version number on every backward-incompatible change.
- E. Use the current version number for the new API.

**Answer: C**

**Explanation:**

<https://cloud.google.com/apis/design/versioning>

All Google API interfaces must provide a major version number, which is encoded at the end of the protobuf package, and included as the first part of the URI path

for REST APIs. If an API introduces a breaking change, such as removing or renaming a field, it must increment its API version number to ensure that existing user code does not suddenly break.

**NEW QUESTION 262**

- (Exam Topic 5)

You want to optimize the performance of an accurate, real-time, weather-charting application. The data comes from 50,000 sensors sending 10 readings a second, in the format of a timestamp and sensor reading. Where should you store the data?

- A. Google BigQuery
- B. Google Cloud SQL
- C. Google Cloud Bigtable
- D. Google Cloud Storage

**Answer:** C

**Explanation:**

It is time-series data, So Big Table. <https://cloud.google.com/bigtable/docs/schema-design-time-series>

Google Cloud Bigtable is a scalable, fully-managed NoSQL wide-column database that is suitable for both real-time access and analytics workloads.

Good for:

- > Low-latency read/write access
- > High-throughput analytics
- > Native time series support
- > Common workloads:
- > IoT, finance, adtech
- > Personalization, recommendations
- > Monitoring
- > Geospatial datasets
- > Graphs

References: <https://cloud.google.com/storage-options/>

**NEW QUESTION 264**

- (Exam Topic 5)

Your company operates nationally and plans to use GCP for multiple batch workloads, including some that are not time-critical. You also need to use GCP services that are HIPAA-certified and manage service costs.

How should you design to meet Google best practices?

- A. Provisioning preemptible VMs to reduce cos
- B. Discontinue use of all GCP services and APIs that are not HIPAA-compliant.
- C. Provisioning preemptible VMs to reduce cos
- D. Disable and then discontinue use of all GCP and APIs that are not HIPAA-compliant.
- E. Provision standard VMs in the same region to reduce cos
- F. Discontinue use of all GCP services and APIs that are not HIPAA-compliant.
- G. Provision standard VMs to the same region to reduce cos
- H. Disable and then discontinue use of all GCP services and APIs that are not HIPAA-compliant.

**Answer:** B

**Explanation:**

<https://cloud.google.com/security/compliance/hipaa/>

**NEW QUESTION 267**

- (Exam Topic 6)

For this question, refer to the Dress4Win case study. You are responsible for the security of data stored in Cloud Storage for your company, Dress4Win. You have already created a set of Google Groups and assigned the appropriate users to those groups. You should use Google best practices and implement the simplest design to meet the requirements.

Considering Dress4Win's business and technical requirements, what should you do?

- A. Assign custom IAM roles to the Google Groups you created in order to enforce security requirements.Encrypt data with a customer-supplied encryption key when storing files in Cloud Storage.
- B. Assign custom IAM roles to the Google Groups you created in order to enforce security requirements.Enable default storage encryption before storing files in Cloud Storage.
- C. Assign predefined IAM roles to the Google Groups you created in order to enforce security requirements.Utilize Google's default encryption at rest when storing files in Cloud Storage.
- D. Assign predefined IAM roles to the Google Groups you created in order to enforce security requirement
- E. Ensure that the default Cloud KMS key is set before storing files in Cloud Storage.

**Answer:** D

**Explanation:**

<https://cloud.google.com/iam/docs/understanding-service-accounts>

**NEW QUESTION 268**

- (Exam Topic 6)

For this question, refer to the Dress4Win case study. You want to ensure that your on-premises architecture meets business requirements before you migrate your solution.

What change in the on-premises architecture should you make?

- A. Replace RabbitMQ with Google Pub/Sub.
- B. Downgrade MySQL to v5.7, which is supported by Cloud SQL for MySQL.
- C. Resize compute resources to match predefined Compute Engine machine types.
- D. Containerize the micro services and host them in Google Kubernetes Engine.

**Answer:** C

#### NEW QUESTION 273

- (Exam Topic 7)

For this question, refer to the TerramEarth case study. Considering the technical requirements, how should you reduce the unplanned vehicle downtime in GCP?

- A. Use BigQuery as the data warehouse
- B. Connect all vehicles to the network and stream data into BigQuery using Cloud Pub/Sub and Cloud Dataflow
- C. Use Google Data Studio for analysis and reporting.
- D. Use BigQuery as the data warehouse
- E. Connect all vehicles to the network and upload gzip files to a Multi-Regional Cloud Storage bucket using gcloud
- F. Use Google Data Studio for analysis and reporting.
- G. Use Cloud Dataproc Hive as the data warehouse
- H. Upload gzip files to a MultiRegional Cloud Storage bucket
- I. Upload this data into BigQuery using gcloud
- J. Use Google data Studio for analysis and reporting.
- K. Use Cloud Dataproc Hive as the data warehouse
- L. Directly stream data into partitioned Hive table
- M. Use Pig scripts to analyze data.

**Answer:** A

#### NEW QUESTION 274

- (Exam Topic 7)

For this question, refer to the TerramEarth case study. You are asked to design a new architecture for the ingestion of the data of the 200,000 vehicles that are connected to a cellular network. You want to follow Google-recommended practices.

Considering the technical requirements, which components should you use for the ingestion of the data?

- A. Google Kubernetes Engine with an SSL Ingress
- B. Cloud IoT Core with public/private key pairs
- C. Compute Engine with project-wide SSH keys
- D. Compute Engine with specific SSH keys

**Answer:** A

#### Explanation:

<https://cloud.google.com/solutions/iot-overview> <https://cloud.google.com/iot/quotas>

#### NEW QUESTION 276

- (Exam Topic 7)

For this question, refer to the TerramEarth case study.

You start to build a new application that uses a few Cloud Functions for the backend. One use case requires a Cloud Function func\_display to invoke another Cloud Function func\_query. You want func\_query only to accept invocations from func\_display. You also want to follow Google's recommended best practices. What should you do?

- A. Create a token and pass it in as an environment variable to func\_display
- B. When invoking func\_query, include the token in the request. Pass the same token to func\_query and reject the invocation if the tokens are different.
- C. Make func\_query 'Require authentication.' Create a unique service account and associate it to func\_display
- D. Grant the service account invoker role for func\_query
- E. Create an id token in func\_display and include the token to the request when invoking func\_query.
- F. Make func\_query 'Require authentication' and only accept internal traffic
- G. Create those two functions in the same VPC
- H. Create an ingress firewall rule for func\_query to only allow traffic from func\_display.
- I. Create those two functions in the same project and VPC
- J. Make func\_query only accept internal traffic. Create an ingress firewall for func\_query to only allow traffic from func\_display
- K. Also, make sure both functions use the same service account.

**Answer:** B

#### Explanation:

[https://cloud.google.com/functions/docs/securing/authenticating#authenticating\\_function\\_to\\_function\\_calls](https://cloud.google.com/functions/docs/securing/authenticating#authenticating_function_to_function_calls)

#### NEW QUESTION 277

- (Exam Topic 7)

TerramEarth has a legacy web application that you cannot migrate to cloud. However, you still want to build a cloud-native way to monitor the application. If the application goes down, you want the URL to point to a "Site is unavailable" page as soon as possible. You also want your Ops team to receive a notification for the issue. You need to build a reliable solution for minimum cost.

What should you do?

- A. Create a scheduled job in Cloud Run to invoke a container every minute
- B. The container will check the application URL. If the application is down, switch the URL to the "Site is unavailable" page, and notify the Ops team.
- C. Create a cron job on a Compute Engine VM that runs every minute
- D. The cron job invokes a Python program to check the application URL. If the application is down, switch the URL to the "Site is unavailable" page, and notify the Ops team.

- E. Create a Cloud Monitoring uptime check to validate the application URL. If it fails, put a message in a Pub/Sub queue that triggers a Cloud Function to switch the URL to the "Site is unavailable" page, and notify the Ops team.
- F. Use Cloud Error Reporting to check the application URL. If the application is down, switch the URL to the "Site is unavailable" page, and notify the Ops team.

**Answer:** C

**Explanation:**

<https://cloud.google.com/blog/products/management-tools/how-to-use-pubsub-as-a-cloud-monitoring-notification>

#### NEW QUESTION 280

- (Exam Topic 7)

You are migrating a Linux-based application from your private data center to Google Cloud. The TerraEarth security team sent you several recent Linux vulnerabilities published by Common Vulnerabilities and Exposures (CVE). You need assistance in understanding how these vulnerabilities could impact your migration. What should you do?

- A. Open a support case regarding the CVE and chat with the support engineer.
- B. Read the CVEs from the Google Cloud Status Dashboard to understand the impact.
- C. Read the CVEs from the Google Cloud Platform Security Bulletins to understand the impact.
- D. Post a question regarding the CVE in Stack Overflow to get an explanation.
- E. Post a question regarding the CVE in a Google Cloud discussion group to get an explanation.

**Answer:** AC

**Explanation:**

<https://cloud.google.com/support/bulletins>

#### NEW QUESTION 281

- (Exam Topic 8)

For this question, refer to the Mountkirk Games case study. You are in charge of the new Game Backend Platform architecture. The game communicates with the backend over a REST API.

You want to follow Google-recommended practices. How should you design the backend?

- A. Create an instance template for the backend.
- B. For every region, deploy it on a multi-zone managed instance group.
- C. Use an L4 load balancer.
- D. Create an instance template for the backend.
- E. For every region, deploy it on a single-zone managed instance group.
- F. Use an L4 load balancer.
- G. Create an instance template for the backend.
- H. For every region, deploy it on a multi-zone managed instance group.
- I. Use an L7 load balancer.
- J. Create an instance template for the backend.
- K. For every region, deploy it on a single-zone managed instance group.
- L. Use an L7 load balancer.

**Answer:** C

**Explanation:**

[https://cloud.google.com/solutions/gaming/cloud-game-infrastructure#dedicated\\_game\\_server](https://cloud.google.com/solutions/gaming/cloud-game-infrastructure#dedicated_game_server)

#### NEW QUESTION 282

- (Exam Topic 8)

You need to implement a network ingress for a new game that meets the defined business and technical requirements. Mountkirk Games wants each regional game instance to be located in multiple Google Cloud regions. What should you do?

- A. Configure a global load balancer connected to a managed instance group running Compute Engine instances.
- B. Configure kubemci with a global load balancer and Google Kubernetes Engine.
- C. Configure a global load balancer with Google Kubernetes Engine.
- D. Configure Ingress for Anthos with a global load balancer and Google Kubernetes Engine.

**Answer:** A

#### NEW QUESTION 287

- (Exam Topic 8)

Your development team has created a mobile game app. You want to test the new mobile app on Android and iOS devices with a variety of configurations. You need to ensure that testing is efficient and cost-effective.

What should you do?

- A. Upload your mobile app to the Firebase Test Lab, and test the mobile app on Android and iOS devices.
- B. Create Android and iOS VMs on Google Cloud, install the mobile app on the VMs, and test the mobile app.
- C. Create Android and iOS containers on Google Kubernetes Engine (GKE), install the mobile app on the containers, and test the mobile app.
- D. Upload your mobile app with different configurations to Firebase Hosting and test each configuration.

**Answer:** C

#### NEW QUESTION 288

- (Exam Topic 8)

Your development teams release new versions of games running on Google Kubernetes Engine (GKE) daily. You want to create service level indicators (SLIs) to



evaluate the quality of the new versions from the user's perspective. What should you do?

- A. Create CPU Utilization and Request Latency as service level indicators.
- B. Create GKE CPU Utilization and Memory Utilization as service level indicators.
- C. Create Request Latency and Error Rate as service level indicators.
- D. Create Server Uptime and Error Rate as service level indicators.

**Answer: C**

#### NEW QUESTION 290

- (Exam Topic 8)

For this question, refer to the Mountkirk Games case study. Mountkirk Games wants to design their solution for the future in order to take advantage of cloud and technology improvements as they become available. Which two steps should they take? (Choose two.)

- A. Store as much analytics and game activity data as financially feasible today so it can be used to train machine learning models to predict user behavior in the future.
- B. Begin packaging their game backend artifacts in container images and running them on Kubernetes Engine to improve the availability to scale up or down based on game activity.
- C. Set up a CI/CD pipeline using Jenkins and Spinnaker to automate canary deployments and improve development velocity.
- D. Adopt a schema versioning tool to reduce downtime when adding new game features that require storing additional player data in the database.
- E. Implement a weekly rolling maintenance process for the Linux virtual machines so they can apply critical kernel patches and package updates and reduce the risk of 0-day vulnerabilities.

**Answer: BC**

#### NEW QUESTION 293

- (Exam Topic 8)

You are implementing Firestore for Mountkirk Games. Mountkirk Games wants to give a new game programmatic access to a legacy game's Firestore database. Access should be as restricted as possible. What should you do?

- A. Create a service account (SA) in the legacy game's Google Cloud project, add this SA in the new game's IAM page, and then give it the Firebase Admin role in both projects
- B. Create a service account (SA) in the legacy game's Google Cloud project, add a second SA in the new game's IAM page, and then give the Organization Admin role to both SAs
- C. Create a service account (SA) in the legacy game's Google Cloud project, give it the Firebase Admin role, and then migrate the new game to the legacy game's project.
- D. Create a service account (SA) in the legacy game's Google Cloud project, give the SA the Organization Admin rule and then give it the Firebase Admin role in both projects

**Answer: B**

#### NEW QUESTION 295

- (Exam Topic 8)

Mountkirk Games wants to limit the physical location of resources to their operating Google Cloud regions. What should you do?

- A. Configure an organizational policy which constrains where resources can be deployed.
- B. Configure IAM conditions to limit what resources can be configured.
- C. Configure the quotas for resources in the regions not being used to 0.
- D. Configure a custom alert in Cloud Monitoring so you can disable resources as they are created in other regions.

**Answer: A**

#### NEW QUESTION 296

- (Exam Topic 8)

Mountkirk Games wants you to secure the connectivity from the new gaming application platform to Google Cloud. You want to streamline the process and follow Google-recommended practices. What should you do?

- A. Configure Workload Identity and service accounts to be used by the application platform.
- B. Use Kubernetes Secrets, which are obfuscated by default
- C. Configure these Secrets to be used by the application platform.
- D. Configure Kubernetes Secrets to store the secret, enable Application-Layer Secrets Encryption, and use Cloud Key Management Service (Cloud KMS) to manage the encryption key
- E. Configure these Secrets to be used by the application platform.
- F. Configure HashiCorp Vault on Compute Engine, and use customer managed encryption keys and Cloud Key Management Service (Cloud KMS) to manage the encryption key
- G. Configure these Secrets to be used by the application platform.

**Answer: A**

#### NEW QUESTION 299

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